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AUTHOR Gordon, Helen H.
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ABSTRACT

A study of two groups of students at Sacramento City College (California) was undertaken in Fall, 1978, to determine whether the holistic approach to the teaching of basic writing (involving the techniques of free writing, writing from stimulus words, and controlled composition) could result in more significant gains in fluency and reduction of mechanical errors in students' writing than could the traditional, fragmented approach. Both groups, matched on the basis of the Task II placement test, high school English grades, high school grade point averages, age, and sex, were administered uniform writing tests before and after the semester. A single evaluator counted the words in each paper as a rough measure of fluency and tabulated errors according to 18 error categories. The significance of gain registered in a comparison of the two tests was determined by a jury of six English teachers. Among other findings, the study showed that the group taught with fragmental instruction experienced a 9.9% decrease in fluency and a 15.2% decrease in errors, while the group taught with holistic methods increased fluency by 17.5% and decreased errors by 42.9%. Data tables and a survey of relevant literature are included. (Author/JP)

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A COMPARISON OF FRAGMENTED AND HOLISTIC MODES OF INSTRUCTION
IN REMEDIAL WRITING COURSES
AT SACRAMENTO CITY COLLEGE

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HELEN H. GORDON

A MAJOR APPLIED RESEARCH PROJECT
PRESENTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF EDUCATION

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Abstract of a Major Applied Research Project Presented to Nova University
in Partial Fulfillment of the Requirements for the Degree of Doctor of
Education

A COMPARISON OF FRAGMENTED AND HOLISTIC MODES OF INSTRUCTION
IN REMEDIAL WRITING COURSES
AT SACRAMENTO CITY COLLEGE

by

Helen H. Gordon

June, 1979

This study compared fragmented and holistic modes of instruction in six remedial writing classes at Sacramento City College in fall semester, 1978. Instructors employing the fragmented approach used traditional textbooks in grammar and sentence structure. Those employing the holistic approach used free writing, writing of sentences from stimulus words, and controlled composition exercises developed by the author to teach basic writing skills without grammatical analysis. Purpose of the research was to determine whether one method succeeded better than the other in increasing fluency and/or decreasing mechanical errors in students' writing over a semester of instruction.

Because randomized sampling was not feasible, two matched groups of students, one taught by fragmented methods and the other by holistic methods, were compared. Groups were matched on the basis of English scores on the Task II placement test, high school English grades, high school grade point averages, age, and sex. Both groups were taught by experienced teachers who had volunteered for the assignment. The author volunteered time and assistance in the holistic method courses in order to monitor the use of materials and observe the process, but be-

cause the holistic classes were larger, the teacher-student ratio was comparable to that of the fragmented method classes.

Pre-test and post-test writing samples were collected from both groups at the beginning and end of the semester. Topics were uniform for all students and agreed upon in advance by all instructors. Directions and time allowed were also uniform. These compositions were then analyzed by a single evaluator, who counted the words in each paper as a rough measure of fluency and tabulated errors according to 18 common error categories. At the end of the semester, the post-test composition of each student was compared to his pre-test composition. Improvement was defined as an increase in fluency and/or decrease in mechanical errors. Although other improvements took place, they were considered beyond the scope of this study.

For interpreting the significance of the magnitude of gain scores, criteria were established by the researcher in collaboration with a jury of six experienced English teachers prior to the study. Improvement of fluency in the holistic method group was deemed significant according to these criteria, but the fragmented method group dropped in fluency. Both groups reduced errors, but only the holistic method group reached a level deemed significant in terms of the established criteria.

Females in both groups performed better than males, but the differences were more pronounced in the fragmented method group. Students over age 25 in both groups wrote less in the beginning than did their younger colleagues, but they made approximately the same gain (in both fluency and error-reduction) as did younger students in the holis-

tic group. Older students in the fragmented group averaged less of a drop than younger students, but they also increased their errors slightly. It was concluded that, for older and younger students, males and females, greater improvement took place in the holistic group than in the fragmented group.

To determine what relationship existed between fluency scores and errors per 100 words, product-moment correlations were calculated for both the pre-test and post-test scores of the two treatment groups. The results for the holistic group were not statistically significant at the .05 level. However, the fragmented group showed a statistically significant inverse relationship at the .01 level on the pre-test. This group showed a tendency for a high fluency score to be accompanied by a relatively low score in errors per 100 words. This tendency decreased with training, so that students exhibited more nearly the same fluency level regardless of the number of errors made.

Because the compared groups were not randomized, the above findings could not be generalized. It was recommended that the study be replicated with randomized samples, that more instructors try holistic methods for themselves at Sacramento City College and elsewhere, and that more experimentation be done in the use of holistic methods for teaching writing to learning disabled students.

The findings of this study lend support to the many other studies reported which argue against instruction in formal grammar or sentence analysis as a means of improving seriously deficient writing skills.

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Chapter 1

INTRODUCTION

Philosophical differences exist among English teachers as to the best way to teach remedial writing. One school of thought advocates a fragmented approach in the belief that breaking down writing tasks into units such as the sentence or the paragraph makes the tasks more manageable. Another school of thought asserts that such divisions are both artificial and counterproductive, because grammatical analysis detracts from actual writing practice and does not transfer well to the writing of compositions. This study compared those two modes of instruction--fragmented and holistic--in community college composition courses in basic writing.

Background and Significance

The keen interest that this subject holds for the author has been an outgrowth of eleven years of teaching composition in community colleges. Particular dissatisfaction with certain teaching methods and materials arose in the past four years as the author concentrated on teaching basic skills--reading, writing and study skills--in the Learning Center at Bakersfield College, Bakersfield, California. This learning center offered open-entry courses with flexible laboratory hours so that any Bakersfield College student could arrange the hours to fit his schedule. Thus a system of individualized instruction was necessary for the laboratory component of the course. For individualized instruction in reading, spelling, vocabulary building, and grammar, excellent commercial

materials were available. However, commercial materials for individualized instruction in writing tended to be limited to grammar. Research upon the effectiveness of formal grammar instruction for improving basic writing skills (summarized in Chapter 2) led to the conclusion that grammar drills are not sufficient in themselves to improve the writing of very weak students. More actual writing practice should be generated, preferably practice on which the student can get immediate feedback.

That dissatisfaction with available materials prompted the author to develop special materials using a holistic approach to the teaching of writing for use in a laboratory situation. During the summer of 1978, she developed a series of thirty lessons and exercises in controlled composition, using criteria derived from research findings and literature on learning theory. Research was then needed to determine the effectiveness of those materials, which were designed for a holistic approach, in comparison to traditional grammar materials, which were typically used in a fragmented approach to the teaching of basic writing skills.

Sacramento City College, Sacramento, California, was chosen as the site for the research because the English Department there was desirous of experimenting with the holistic approach in a new course called Basic Writing Laboratory (English A) as an alternative to their traditional mini-courses in Sentence Structure (English M) and Advanced Sentence Structure (English N). Inasmuch as Sacramento City College did not have flexible laboratory hours for the new course (English A), it had an advantage over Bakersfield College for research purposes. Moreover, the mini-courses in sentence structure provided a strong contrast to the holistic mode of instruction because they focused on a particular

unit of composition--the sentence--rather than whole passages or essays.

Statement and Delineation of the Problem

The problem of this investigation was to determine whether a holistic approach to the teaching of basic writing (principally involving the techniques of free writing, writing from stimulus words, and controlled composition), could result in more significant gains in fluency and reduction of mechanical errors in students' writing than did the traditional approach of two nine-week mini-courses in sentence structure (English M and English N).

Major components of the problem were as follows:

1. The development of instructional materials (in this case, controlled composition materials) suitable for individualized instruction in basic writing using a holistic mode of instruction.
2. Developing administrative arrangements for the implementation of courses using differing methodological approaches to instruction in remedial writing (fragmented and holistic), under such conditions that all important variables affecting student achievement, except the approach, were held constant.
3. Monitoring the use of holistic materials through actual participation in the teaching of courses using the approach.
4. The development of criteria by which the significance of achievement gain scores could be judged within and between each of the two groups receiving different methodological treatment.
5. Using results obtained from the study, evaluating the effectiveness of the two approaches with the two matched groups.

Significance of the Study

This study added to the general body of knowledge about basic writing for the academically underprepared college student. In particular, it lent some corroborating data to certain issues being discussed in the current literature of higher education. One of these issues was the debate over whether alternative methods are more effective than the teaching of grammar for improving students' writing. Another issue, closely related to holistic instruction, was the relatively new concept of brain hemisphericity. Instructors using the holistic methods attempted to involve the right hemisphere functions of the brain (imitation on patterns, generation of thought, intuitive learning) as well as the left hemisphere functions (analytical, sequential, and logical processes). Instructors using fragmented modes of instruction, by focusing on parts and details rather than wholes, leaned heavily toward utilizing left hemisphere functions to the exclusion of right hemisphere functions. Since the group treated with holistic methods improved in fluency and decreased their errors more than the group treated with fragmented methods, the findings added a small degree of weight to the argument that holistic methods may prove more effective for the non-traditional students who are now and will continue to be a presence on community college campuses.

The research was also of value to Sacramento City College, whose English Department was experimenting with a new basic writing course using the holistic methods of controlled composition, free writing, and the writing of sentences in response to stimulus words. For the past ten years the college has been attempting to remediate student writing

deficiencies with a series of mini-courses in spelling, sentence structure, etc., sometimes taken prior to English 1A (Freshman English), and sometimes concurrently as supplements. But as the faculty observed fewer and fewer students qualifying for English 1A, and more students demonstrating multiple weaknesses in writing, they wanted to know whether a holistic approach might better serve the very weak writer.

Because of the limitations of the small, non-random sample, it was not possible to generalize from this study to the entire college population, even for the one institution at which the research was conducted. However, one might reasonably conclude that similar results might be obtained for a group of students with similar characteristics (e.g. grades, standardized test scores, etc.) if taught by the same instructors using the same or similar techniques and materials. The findings of this research were therefore useful to some degree in the decision by the English Department of Sacramento City College to change their curriculum offerings in English composition.

Hypotheses

The following hypotheses were tested:

1. There will be no significant gain in fluency scores within the fragmented group.
2. There will be no significant gain in fluency scores within the holistic group.
3. There will be no significant gain in error reduction within the fragmented group.
4. There will be no significant gain in error reduction within

the holistic group.

5. Gain in student achievement in fluency for the holistic group will not be significantly greater than for the fragmented group.

6. Gain in student achievement in error-reduction for the holistic group will not be significantly greater than for the fragmented group.

7. There will be no significant relationship between fluency and errors per 100 words within the fragmented group.

8. There will be no significant relationship between fluency and errors per 100 words within the holistic group.

In hypotheses 1 through 5, the word "significant" relates to criteria for interpreting the magnitude of gain scores developed by the researcher in collaboration with a jury of six other English instructors prior to final results of the study. In hypotheses 7 and 8, the word "significant" means "statistically significant" at the .05 level.

Study Design

The plan for the study was to compare improvement in fluency and error-reduction made by two groups receiving different methodological treatments. The treatments to which the groups were submitted were holistic and fragmented approaches to the teaching of basic writing. Beginning level of achievement was determined by the administration of a pre-test writing assignment and gains were measured by comparing that achievement to the achievement shown on a post-test writing sample. The two groups were matched on the variables of entrance examination scores on the English portion of the Stanford Test of Academic Skills,

Form II (TASK II), high school grade point averages, high school English grades, age, and sex. The study was also controlled for quality of teaching, classroom environment, time of day, and student-teacher ratio in class size.

Analyses of gain scores primarily focused on the extent to which students increased fluency (e.g. number of words written in a fifty-minute period) and decreased the number of errors per 100 words of writing. Further analyses were made of the types of errors made on both pre-tests and post-tests to determine whether certain types of errors seemed more amenable to correction through one mode or the other. Data were also analyzed for differences between male and female students and between younger and older students (over age 25). To determine whether a correlation existed between fluency and errors made per 100 words of writing, product-moment correlations were calculated for both pre-test and post-test scores of the two treatment groups.

Definition of Terms

The following key terms have been used in this report as defined below:

1. Holistic mode -- a mode of instruction emphasizing wholes rather than parts; in basic writing instruction, methods which emphasize the writing of whole passages or compositions rather than smaller components such as the paragraph, the sentence, or the word. It de-emphasizes analysis, drills, and nomenclature relating to grammatical structure, seeking instead for the production and imitation of whole patterns.

2. Fragmented mode -- a mode of instruction emphasizing the breaking down of tasks into smaller units. In basic writing instruction, methods which emphasize detailed analysis of sentence structure and drills on components of composition such as spelling and vocabulary. Mini-courses which limit their focus to a component of composition such as spelling, paragraph structure, sentence structure, etc., may also be considered a fragmented approach to teaching composition skills.

3. Controlled composition -- a technique for teaching writing wherein a student rewrites a whole composition, changing one aspect of it (such as from singular to plural, present tense to past tense, slang to standard English, etc.).

4. Free writing -- a method of teaching writing skills in which the student may write about anything he or she chooses for a short period of time, with the goal of increasing speed and fluency superseding the goal of correctness.

5. Fluency -- the ability to write easily and smoothly. For research purposes, fluency has been measured by simply counting the number of words students wrote in a class period. Though this word-count is admittedly a crude form of measurement, it was deemed indicative of progress for students who have had little writing practice.

6. Mechanical errors -- errors in composition related to grammar, usage, spelling, vocabulary, and punctuation. The term specifically does not include errors related to vapid content, lapses in organization, inadequate development, poor coherence, or style.

7. Significant -- noteworthy or impressive in the judgment of experienced professionals. Not to be confused with "statistically sig-

nificant."

8. Statistically significant -- significant at the .05 level.

Assumptions and Limitations

Several limitations narrowed the scope of the study. It was confined to one semester at one college--Sacramento City College in fall semester, 1978--because of limitations of time and money. The holistic approach group was necessarily limited to two sections of English A (Basic Writing Laboratory), because only two sections were offered in fall semester. The fragmented approach group was drawn from four sections of the combination English M / English N (Sentence Structure and Advanced Sentence Structure), two sequential nine-week courses, in order to have a matched group with a full semester of instruction to compare with the group receiving a full semester of instruction under the holistic approach. But one difficulty lay in the fact that not every student who took the mini-course English M also continued on through the mini-course English N. Sufficient number did, however, to make a reasonably meaningful comparison. Further details on the selection of these matched groups are given in Chapter 3, "Procedures and Methodology."

The study was further confined to the measurement of improvement in terms of increased fluency (determined by a simple word count) and decrease in the number of mechanical errors. Admittedly, the criteria of meaningful content and logical organization for evaluating student compositions are more important than the criteria of length and mechanical correctness, but because content and organization are

more subjective and more difficult to measure accurately, those criteria were designated as beyond the scope of this study. The major course objectives for both groups were to increase fluency and to decrease mechanical errors. It was assumed that those skills are preparatory for more advanced courses in which content, logic, imagination, and style will be emphasized.

Practical administrative problems also limited the scope of the study. Because Sacramento City College did not have computerized registration, it was not feasible to get randomized groups in two physical locations for the application of different treatments. Thus the study was limited to two matched groups of students, paired for similarities in entrance examination scores, grade point averages, and other factors deemed indicative of ability. The absence of a random sample, however, made it impossible to generalize the findings.

One limitation not foreseen in the proposal for this Major Applied Research Project was a slight vagueness in the hypotheses submitted in that proposal. These hypotheses have been refined into the more specific and pointed ones which were stated in the subsection of this chapter entitled "Hypotheses."

Chapter 2

REVIEW OF RELATED LITERATURE

As far as community college instruction is concerned, the 1970's may be considered a decade of rapidly changing services, attempts to meet the needs of increasing numbers of non-traditional students and academically underprepared students.

New Clientele and the Need for Basic Skills

The characteristics of non-traditional students were described in 1971 by Cross (14). These "new students," as she called them, tend to be older, to possess fewer academic skills, to come more often from blue-collar families than from white-collar ones, and to learn more readily through concrete means than through abstractions. Such students, she argued, require different educational approaches; they must do things rather than talk about them, and the lecture method is, for most of them, the least effective mode of instruction.

The other client of greatest concern to community college instructors is the academically underprepared student--who may or may not be a non-traditional student. Even students with traditional ages, backgrounds, and income levels have been entering college without having attained proficiency in reading and writing skills sufficient for college work. The news media have proclaimed a national scandal of illiteracy; Corder surveyed the mass media in 1977 and listed the following sampling of public opinion:

On August 25, 1975, Time reported, under the title "Can't Anyone Here Speak English?", on the dreadful state of literacy in the land. . . . Newsweek emblazoned across its December 8, 1975 cover the title "Why Johnny Can't Write," and said inside that the educational system is spawning a generation of semi-literates. . . . The Dallas Times Herald for February 1, 1976, said that Americans are "facing a national crisis in literacy." . . . The September, 1976 issue of Harper's includes an article by Gene Lyons entitled "The Higher Illiteracy," which proclaims that college English departments are the chief chauffeurs of the country's drive toward illiteracy: "American students are not learning how to write because nobody bothers to teach them how." (12)

Educators are faced suddenly with large numbers of what Shaughnessy has called "adult beginners" in language skills (55), similar to adult beginners in piano or tennis, and research is needed on what kinds of intensive instruction will work with them. Shaughnessy deplored the lack of practice in written discourse that typifies so many basic writing students in American colleges:

The single most important fact about Basic Writing students is that, although they have been talking every day for a good many years, they have been writing infrequently. . . . Compared with the 1,000 words a week that a British student is likely to have written in the equivalent of an American high school or even the 350 words a week that an American student in a middle-class high school is likely to have written, the Basic Writing student is more likely to have written 350 words a semester. It would not be unusual for him to have written nothing at all. He is often therefore struggling with basic motor-mental coordinations that have long ago become unconscious for more practiced students (54:14).

Though Shaughnessy and others compared American high schools unfavorably to British schools, Britain is also experiencing a public outcry and a "back-to-the-basics" movement. The Bullock Report, published in 1975, was the product of two years' work by a government committee in England that had been appointed to investigate the decline of reading, writing, and speech standards. The committee re-

ported that it was impossible to say whether standards had actually fallen, but they said it was clear that standards of performance no longer satisfy the demands of present day employers and institutions of higher learning (8:58).

Reactions of Educators to "Back to Basics" Movement

Much of the literature in the journals of the teaching profession has been pre-occupied, since 1975, with explanations for, or denials of, the alleged decline in literacy. Graham, Director of the National Institute of Education, asserted that we educate people "not for salvation, morality, or mobility, but for literacy," and charged the public with making unreasonable demands upon the school system (26:27). Lloyd-Jones complained that the interest of the public is complicated by all sorts of misconceptions, which make support of research difficult (for example, confusion between unconventional usage and "bad" writing), and he faulted the critics of public education for being lamentably vague in describing just what it is they want (34:219-20). Memering accused the "back-to-basics" movement of being "simple-minded in its simplicity":

We are advised that we needn't devote freshman English solely to punctuation and grammar; we merely need to spend a little more time with the drill materials in our favorite handbooks. . . . However, the fact that our most reliable research denies that skill-drilling has ever worked in the past, the fact that the evidence is incontestable that grammar teaching achieves nothing useful in composition, the fact that the sentence as a discrete unit outside of any body of discourse to give it meaning is only a linguistic construct and not a fact of writing--these facts are somehow all to be ignored or overcome (36:559).

Certainly the general public's belief that grammar and spelling drills

will cure students' deficiencies in writing flies in the face of a substantial body of research. To inform practitioners about research findings and their implications for teaching, the National Council of Teachers of English formed a standing committee in 1975 known as Slate--an acronym for "Support for Learning and Teaching of English." The Slate Committee publishes newsletters or "starter sheets" giving N.C.T.E. recommendations and research upon which those recommendations are based. Adler (1), writing for the Slate committee in August, 1976, cited three studies by Hoyt (1906), Ash (1935), and Harris (1962) which found the study of grammar and terminology of grammar to be ineffective for improving students' writing. In contrast, he cited studies by Buxton (1948), Heys (1962), McColley (1963), Burton and Arnold (1963), and Christiansen (1965), which show that regular writing assignments accompanied by discussion, criticism, and revision will improve student writing. Dunning and Redd, also writing for Slate (19), summarized research showing that isolated teaching of skills cannot be justified. Findings suggest, they said, that the whole of language development is greater than the sum of its parts (unrelated drill on mechanics). They cited studies by Cook (1959) and Searles and Carlson (1960) which suggested the uselessness of teaching grammar and usage isolated from composition. They listed several "knowns" leading to N.C.T.E. recommendations for teaching English:

1. That isolated drills in usage, formal grammar, phonics, and spelling have little value. These skills are best learned in a context.
2. That most students learn to write and read by performing real tasks: writing letters, notices, stories, reports for a class audience, etc.
3. That drills may be useful following diagnosis of weakness

in a specific area, but not as a substitute for whole writing tasks.

4. That students need help during the writing process.

5. That sentence building is more productive than analysis or labeling (17).

Sutton explored the question of whether grammar terminology was necessary in the curriculum in order to prepare students for standardized tests (60). He concluded that, of eleven commonly used standardized tests in English, only one--the Metropolitan Achievement Test--required a knowledge of English grammatical terminology. Bringing highly specialized terminology into the English classroom, he said, is "as inappropriate as supposing that one can't become a first rate driver unless he knows the names of all the parts of an automobile engine." (60:40)

D'Eloia explained why the formal study of grammar may actually detract from the improvement of writing skill:

If there is one conclusion to be drawn which cuts across all the studies, it is this: the more time spent analyzing grammar as grammar, the less time spent writing; the less time spent writing, the less the improvement in the written product (16:1).

Yet grammar has its place in remedial writing, D'Eloia said, provided it helps the student eliminate objectionable errors from his papers and takes as little time as possible from writing practice.

A study by Lunsford at Ohio State University in 1977 reached similar conclusions. Concentrating on actual writing and manipulation of sentence structure, the experimental group improved measurably in almost every area of instruction. The control group's writing had not changed perceptibly in their regular Freshman English course, and what is even more shocking, they did worse on a post-test writing sample than students who had taken no English that semester! Yet Lunsford agreed with D'Eloia that grammar may help defeat error provided it is not divorced from the

student's own writing. "Most remedial writing students," she said, "are greatly concerned with error and view the teacher's avoidance of it as a general cop-out or a tacit admission of defeat" (35:50).

Shaughnessy expressed similar views in her well-received book Errors and Expectations in 1977 (54).

Grammar nevertheless has its ardent defenders. Quoting Moffett and others who have concluded that grammar has limited usefulness in teaching writing, Gliserman countered that such conclusions are illogical, that they "may reflect on methods of teaching grammar, rather than on any inherent lack of relationship between grammatical facility and writing proficiency" (25:791). Yet he, too, recommended working with problems as they arise in a given student's work, and spending only small amounts of classroom time on it. Newkirk, in 1978, attacked many research studies on grammar for their methodology, saying that the research has not proven what so many claim that it proves--partly because "instruction in formal grammar" has not been adequately defined, and partly because too many variables remain uncontrolled (40). Fraser and Hodson raised similar questions (21). They said that the most frequently quoted research is outdated, naively designed, and invalid in important statistical and linguistic respects. Even the more recent studies, they said, reached contradictory conclusions--studies by Mellon, O'Hare, Bateman and Zidonis, Moffett, Christensen, Elley, and others. One source of the confusion, they thought, might be the lack of attention to the level of development of the students in such experiments. Though they argued that no research shows that a good working knowledge of grammar makes students write badly, they were in greater agreement with the anti-grammarians than they at first seemed to be. They recommended

teaching grammar inductively, beginning with questions which interest the student and moving on through observations, recording of data, searching for patterns, and finally generalizations and testing of hypotheses. They also agreed that grammar study should never replace writing practice.

Inductive teaching of grammar is also recommended by Shaughnessy (54:129), letting students look long and carefully at sentences in order to understand the way they work in addition to what they mean. She also recommended developing a sense of the sentence by building sentences up from basic parts, expanding kernels in a variety of ways. "The perception of the sentence as a structure rather than a string of words is probably the most important insight a student can gain from the study of grammar," she stated (54:133).

Alternatives to Grammar

Sentence-building of the type Shaughnessy recommended is one alternative to the analysis, parsing, and labeling that have characterized so much of the formal grammar teaching of the past. Another alternative, developed around principles of generative grammar, is called "sentence combining." The student learns to increase the syntactic maturity of his sentences by combining two short sentences into one longer one, using structures he imitates such as appositives, adjective clauses, participial phrases, etc., but without having to learn the terminology of those structures. The most-quoted study of sentence combining is O'Hare's report for the National Council of Teachers of English (1971), which described a study of seventh graders whose syntactic maturity developed to levels typical of eighth to twelfth graders in eight months,

compared to negligible growth in a control group (41:67).

Since O'Hare published this report, the effectiveness of sentence combining has come into some dispute. A study by Ney at Arizona State University concluded that sentence-combining did not increase syntactic maturity for college freshmen. But his research was challenged by Daiker, Kerek and Morenberg of Miami University (15) because no attempt was made to control for teacher effectiveness, and the methodology of sentence-combining was used during only four out of twenty-seven hours in his course. In contrast, the Miami study controlled for teacher effectiveness, class size, meeting times, and number of writing assignments; and sentence combining was used exclusively in the experimental group's course. Post-tests showed increased syntactic maturity for the experimental group beyond the .001 level of significance. Success with sentence-combining techniques was also reported by Konshak in 1977; he used the Fry readability scale to measure the growth of syntactic maturity in his college students (32). Lunsford attributed her success to sentence-combining techniques and ample writing practice, but she criticized available textbooks for providing only author-written combinations. They should elicit student-generated sentences as well as author-written ones, she said, and should foster skills in inference-drawing, abstracting, synthesizing, and conceptualizing (35:51).

Students do not need a knowledge of grammar to overcome four of the five most common weaknesses in their themes, according to Higgins (28), who analyzed 100 sample placement themes by high school graduates and tabulated the most common errors. He then evaluated six popular remedial textbooks which do not adequately treat the kinds of errors the students were making.

That many errors can be eliminated simply by teaching students to proofread carefully is a theory advanced by D'Eloia (16), Shaughnessy (55), Chantland (10), Bronson (7), and others. Bronson said that telephones, television, and radio have created a new attitude toward the written word; students tend to leave letters out of words more than pre-electronic generations did, probably because they do not read or perceive words as carefully. Shaughnessy actually asserted that an ability to proofread was essential to the mastery of grammar, but more importantly, the perceptual difficulties that keep students from seeing what they already know to be erroneous would keep them from incorporating new forms into their writing (55:155).

Other alternatives to formal teaching of grammar have been suggested. Denman reported that non-cognitive approaches to teaching writing helped her students to learn through experience, with reduced anxiety and with esteem-building success (17). Gruber reported amazing improvement in his students' writing through "servile copying" of the style of Mark Twain and other writers (27). Fader also advocated copying. He told an anecdote about a youth in a detention facility who had "nothing to write about" for his journal, but when allowed to copy Time magazine for six weeks, improved not only his writing but his participation in social studies classes (20:74).

Moffett recommended alternatives to grammar for developing syntactic maturity, including sentence-expansion games, good discussion, rewriting of notes, collaborative revision of compositions, and verbalizing certain cognitive tasks (39:180). Moffett, in fact, saw little use for grammar, text-workbooks, or fragmented instruction in general:

Take up practically any textbook on composition and you will find it organized in this way: categories, and therefore units of study, are derived by analytically decomposing language into the "elements." This is what I call the particle approach--sound, perhaps, for research, but not for teaching. . . . Publishers often arrange these particles in an order of smaller to larger--from the word to the sentence to the paragraph to the whole composition. I do not know what development this corresponds to--certainly not to the functioning of either the language or the student. . . . Little particle to big particle is not even an order of simple to complex, since each sub-structure is as complex as the next largest (39:4-5).

Moffett has raised a provocative question. Research demands analysis, and so does linguistic theory. But should teaching follow that path? Would it not be better to structure curriculum and course instruction around known principles of development--such as from simple to complex, concrete to abstract, and from self-centered to other-centered concerns? Teachers need to be able to analyze grammatically, just as a repairman needs to be able to analyze a malfunction, but does it follow that they must teach their students analysis in order to repair their compositions?

Techniques for Teaching Composition

Moffett (39:194-97), Fader (20:10), Shaughnessy (55:83), and the Bullock Report (8:58), have all recommended a technique of classroom management that puts the teacher in a very different role than he has had in the past. They have advocated writing in small groups where the students can get help and feedback from each other, as well as providing a peer audience. The teacher acts as a resource person, circulating from group to group and helping whenever the students get stuck. This technique has several advantages--more active involvement of students with each other and with their writing, more writing

practice than is possible when the teacher is the only audience, and the opportunity to hear each other's papers read aloud (nothing gets across the need for punctuation like hearing one's paper misread by a peer because the punctuation clues were missing or misused). In a study to compare the effectiveness of group instruction to tutorial instruction (individual conferences), Budz and Grabar (9) found to their surprise that a classroom group started lower and finished higher than a comparable group, randomly selected, of tutorial students. They concluded that students do learn from each other as well as from the teacher.

There is widespread agreement in the literature that students learn more by doing writing than by being told how to do it. Major objections to textbooks have been voiced by Fader (20:106) and Moffett (39:201) because they represent language being rather than language doing. Real writing tasks in a real context with an audience as close to reality as may be achieved in a classroom--these conditions are widely recommended.

Holistic Methods and Brain Hemisphericity

The fact that students can learn intuitively and holistically, as well as analytically has been known for many years--and stressed by Gestalt psychologists. Educators are beginning to get some insights into why holistic methods work, either as a supplement to analysis or as an alternative learning mode, through the literature on brain hemisphericity. Brandwein and Ornstein (6), among many others, explained recent research findings that the right and left sides of the brain have different functions. Stated with admitted over-simplicity, the

left hemisphere controls the functions of language, rational cognition, and a sense of time--all sequential concepts. The right hemisphere controls the functions of intuitive thinking, spatial perceptions, holistic perceptions, and certain body activities such as painting and dancing. The left brain controls math and verbal skills; the right brain responds to rhythm, sounds, shapes, and colors.

Hunter (29), Sperry (57), Samples (51), Galin (22) and others pointed out that our educational system and society generally tend to reward left-brained activities more than right-brained ones, and pleaded for greater symmetry in development. "Show and Tell" was cited as a good example of teaching toward both halves of the brain at once, through verbal and physical participation. Sagan's brilliant theory on the evolution of human intelligence (50) likewise pleaded for full use of both hemispheres as needed for mature thought processes. He theorized that the brain evolved with the two halves of the neo-cortex gradually assuming specialized functions--the right half retaining certain functions which had been essential for survival during earlier stages of evolution, and the left half gradually becoming a rational check on the more emotional and intuitive right half. But since the right half generalizes and the left half analyzes, both are essential for mature reasoning.

Nevertheless, the right brain is being explored as an avenue for learning which may be more fully tapped. Restak (46) reported, in 1979, a method of measuring the brain's response to stimuli such as sounds or flashes of light. Beck, using this method at the University of Utah, has learned that bright children show more brain asymmetry than dull children--higher amplitude of response in the right hemisphere (46).

Samples (52) welcomed the attention now being given to the right hemisphere, which he said was the source of metaphor and creativity, too long neglected because they were less testable than linear concepts. Art, music, dance, and drama, he said, are the core substances of metaphoric thought, and he believes that basic skills will decline if those core substances are eliminated from the curriculum. Rico (47) has developed a process called "clustering," a technique for stimulating writing through associations clustered around a stimulus word. Basically utilizing right-brain processes, this technique helps students generate ideas for sentences or longer units of composition.

Knowledge of brain hemisphericity may also help educators more accurately diagnose and treat learning problems. Rennels (45) stated that if children who are labeled "retarded" show drawing skills, they may be mislabeled as unintelligent whereas they are simply right-brain dominant. The incidence of dyslexia and specific learning disability is greater in left-handed persons (who are frequently right-brain dominant), suggesting that they may simply learn differently from others. Galin (22) noted that there are cultural differences, too; middle-class persons are more likely to use the verbal-analytic mode, and the urban poor are more likely to use the spatial-holistic mode. This cultural conflict may partially explain the difficulties of the urban poor in schools oriented toward the middle class. Because the copying of sentences is a physical act involving patterns and forms, it probably involves both hemispheres. Thus imitation and copying may prove to be useful techniques with learning disabled and culturally deprived students.

The Effects of Television

Since visual and spatial patterns are received and processed by the right hemisphere, television and films can be considered right-brain input systems, enabling us to receive information without the complex left-brained processing that reading demands. Hunter (29) considered this a mixed blessing; it can be a new avenue for learning, but it can also reduce the practice of using the left-brain verbal processes. Pulaski (44) expressed mixed feelings about the effect of television. It has had a great impact, she said, on the cognitive and fantasy development of children whose parents do not pass on legends, myths, fairy tales, and poems to their offspring. Children play out in fantasy what they see on television--and fantasy seems to be beneficial to a child's mental growth provided that he has some privacy and unstructured time in which to think over and replay his experiences (44:74). But other teachers expressed great concern over the possible harmful effects of television. Kosinski, in an interview with Sohn, compared reading a novel with seeing a television drama:

The basic difference, for me, between television and the novel is that television takes the initiative: it does the involving. It says, "you, the passive spectator, are there. Stay there. I'll do the moving, talking, acting." . . . Everything from a thirty-second commercial to a two-hour movie is designed to fit into neat time slots, wrapped up in lively colors and made easily digestible. . . . While watching, you are not reminded (as you would be by a theater audience, for instance) that you are a member of society whose thoughts and reactions may be valuable. You are isolated and given no time to reflect. The images rush on and you cannot stop them or slow them down or turn them back (56:25).

Fader also expressed alarm at the way television is changing society. Television sets, he said, are on about six hours a day in the average

home, changing society in ways we don't know about and can't even guess. If people don't talk to each other in their homes, if they become isolated voyeurs, we must change our style of teaching to meet the needs of a new clientele (20:7).

Unquestionably, however, television has reduced the amount of time students spend reading. Minkoff and Katz (38) believed it is particularly important for today's students, who read less than those of the past, to be taught structures that occur in written language but not in spoken language. They cited, for example, students reading John Donne's famous line "Death, be not proud" as "Death is not proud," thus reversing the meaning. More writing practice involving manipulation of sentence structure should enable students to read such constructions more easily.

Influence of Psychology on Remedial Instruction

Developmental and humanistic psychology are influencing the literature of higher education, including the literature of college English teaching. Concern with the student as well as with his productions has been shown to be essential for effective remedial programs, according to Roueche and Snow (49). Concerned with the heavy attrition of students from remedial programs supposedly intended to help them (with up to 90 percent dropping out), Roueche and Snow examined several relatively successful college remedial programs and made suggestions for some radical reform in philosophy:

We suggest that schools have been organized for the convenience of teachers and administrators (which they have) and that real reform will call for a radical rethinking of our approach to education. We do not call for a return to basics,

as many are advocating today, but for schools to be therapeutic by design and facilitative of student growth and development (49:11).

Moffett called for a similar radical re-thinking of curriculum throughout the entire school system, elementary through college, particularly as it concerns the teaching of reading and writing. In the past, he said, we started with some notions of structure derived from linguistic or literary criticism and forced these theories into the classroom without regard for the growth stages of our students:

To paraphrase Earl Kelley, we build the right facilities, organize the course of study, work out the finest methods, create the appropriate materials, and then, come September, the wrong students walk through the door (39:12).

Moffett recommended instead a strategy which looks for the main lines of child development and assimilates them, when fitting, to the various formulations that scholars make about language:

I have suggested structuring English curriculum according to the relations of speaker-listener-subject as the ultimate context within which all our other concerns may be handled functionally and holistically, moving the student in his writing and reading from one kind of actual discourse to the next in a sequence which permits him to learn style, logic, semantics, rhetoric, and literary form continuously through practice. . . . Ideally this sequence would correspond to his own intellectual growth (39:12).

That adults also have stages of growth which curriculum should help to develop was a major point made by Cross in 1977 (13). She discussed in detail the developmental theories of Perry and Kohlberg, which stated, in brief, that development moves from simplicity to complexity and from differentiation to integration. In Perry's scheme, the immature person perceives the world in either-or, good-bad terms and depends upon outside authority; the mature person has discovered that authorities disagree and has developed a value system which may not always agree

with that of his peers (13:152-53). Cross advocated deliberate education for personal growth and development as an important responsibility of colleges, because development is a lifelong process and involves the total being, integrating cognitive and affective learning (13:167).

Theoretical Models of Composition Teaching

In a philosophical climate stressing growth and accommodation to developmental stages, it is not surprising that the focus of theory in the field of composition teaching has begun to stress process more than product. An attempt at a rather comprehensive model was made by Petrosky and Brozick in January, 1979. The teacher must be aware, they said, that the production and processing of information is different for different people at different stages of development (43:96). Equally important is an awareness of the writer's personality, or personal style, "the capacity to remain the same in the midst of change," to quote ego psychologist Heinz Lichtenstein (43:97). Composing is also a response process which utilizes stored information from past experiences, current information from the environment, expectations, personality, and fantasy. And writing is composing written down according to the rules of our language.

The composition teacher must be aware, they said, that most syntactic rules operate below the level of consciousness. Although the writer needs experience in using these rules, we know that conscious rule-learning tasks provide the writer with little or no help in producing and processing (43:99). Similar ideas underlie the recommendations of Strong (59) and Irmischer (30), who see the composing process as organic, a continual refining of skills which begin even in child-

hood as intuitive resources of language. The idea that composing is organic--using the metaphor of the plant--can be traced back at least as far as 1902 and the theories of Scott, first president of the National Council of Teachers of English (58), but it has been less widely used as a model than the classical divisions of discourse into narrative, descriptive, expository, and persuasive categories (which emphasize product rather than process).

Two other current theories of composition deserve mention, as they are gaining recognition in pedagogical circles. Emig distinguished between the extensive mode of writing (chiefly prose, active, addressed to a teacher audience, detached, reportorial, involving a short pre-writing period) and the reflexive mode (wherein writers are more contemplative, are more committed, reformulate frequently, take longer with prewriting, and address a sympathetic audience). Emig lamented the school emphasis on the extensive mode because it is far removed from the practice of the best contemporary writers (24:60-61). The other theory is that of Britton and his colleagues, who rejected the traditional classification of argument, exposition, narration, and description because this classification fails to account for the writing process or the effect on the writer of what he writes. They established instead categories of transactional, expressive, and poetic (24, 48) as modes of discourse. Britton explained these terms and their sources in an interview with Rosen:

We started with ideas from Edward Sapir that language has two strands interwoven; one he called expressive and the other he called referential. Expressive language is giving signals about the person who is speaking . . . and referential language is saying things about the world. These two strands are always present, but a scientific report would be primarily referential and two people chatting would use primarily expressive modes.

We used that as a starting point but changed the name referential to transactional. And then we added our own wing to that. It is novel and highly debated; in other words, not generally accepted. We realized that you can use language not simply to do something but to make something. Then you're moving into the poetic, which is the language of stories, poems and plays, of works of art (48:51-52).

In summarizing these theories, Gere tied them to the prevailing philosophies of development, growth, and self-actualization:

Britton and Emig together make a convincing case for the need for continuing attention to reflexive and expressive writing. Expressive writing shouldn't disappear as students become more adept with abstractions.

College writing is dominated by impersonal forms which allow little author involvement and virtually prohibit the expressive mode. . . . Students presented with a limited range of writing assignments will fail to achieve the self-actualization which is one of the goals of writing instruction (24:64).

The voices of this chapter make up a chorus that has formed the background and the climate of opinion surrounding this study. They have given direction to the preparation of materials to be used in the research; they have raised questions which this study attempted to explore.

Chapter 3

PROCEDURES AND METHODOLOGY

To determine whether previous studies had been conducted on the problem under consideration; to garner ideas, theories, explanations, or hypotheses useful in formulating the problem; and to get suggestions on study design and appropriate methods of research; a preliminary review was made of related literature. The literature review further served to locate comparative data and to enhance the general scholarship of the investigator.

The study design for testing the effectiveness of two methodological approaches to the teaching of basic writing included the following major procedures.

1. The development of instructional materials designed to be used in implementing a holistic methodological approach to instruction. Materials already existed for implementing the traditional fragmented methodological approach.

2. The development of study conditions such that all important variables affecting student achievement were controlled except the methodological approach used with each group. Variables controlled were:

- a. The characteristics of students in each of two methodological treatment groups. The two groups were matched on variables deemed to have a relationship to achievement in basic writing.

- b. Environmental factors deemed to be related to student achieve-

ment. They were (1) class size, (2) qualifications of instructors, (3) time of day the classes met, and (4) physical classroom environment.

c. Conditions of administering pre-test and post-test writing assignments which were used in measuring gains in basic writing skills.

3. The monitoring of the use of holistic materials by students through the researcher's actual participation in the teaching of courses using that approach.

4. The analysis and treatment of results, using descriptive statistical procedures appropriate for the purpose.

Each of these aspects of the study design is described in greater detail below.

Development of Instructional Materials

Three factors contributed significantly to the format, sequencing, and content of the materials developed for holistic instruction in a writing laboratory. They were (1) findings reported in the literature regarding the inefficacy of formal grammar instruction, the hemisphericity of the brain, characteristics of academically underprepared students, mastery learning, other principles of learning theory, and individualized instruction; (2) a practicum written for Nova University's Learning Theory Module in which the researcher analyzed fifty short papers written by students upon entrance into a basic skills program, an analysis which demonstrated the need for proofreading skills as a means of reducing errors and yielded information about the categories of types of errors which students actually did make and for which they needed instruction; and

(3) experience with a book of controlled composition exercises which did give students some writing practice but which had a certain number of shortcomings. This book, Kuntz and Viscount's Write Me A Ream (Columbia University, Teacher's College Press, 1973), seemed to work well for students up to a point but suffered from lack of adequate directions for the more complex tasks in the second half of the book. Moreover, the content was not relevant to the interests of community college students (for example, one exercise dealt with the topic of a new train being developed by the French).

From the above readings and experiences, the author evolved a set of criteria which guided the content and sequence of the Gordon Controlled Composition Materials. Those criteria were as follows:

1. Materials can be used in a self-paced program.
2. Directions are simple enough to be followed by a student working on his own in a writing laboratory, and the use of formidable grammatical terms is avoided.
3. Explanations make use of sentence combining in preference to grammatical analysis.
4. Emphasis is on an acceptable written product rather than on understanding theory, and the student copies and/or writes whole passages (to develop fluency and a sense of continuity) rather than filling in blanks.
5. The materials teach to both halves of the brain by using imitation and manipulation of holistic patterns, and by teaching sentence structure and punctuation as they come up in a given context, such as the writing of dialogue.
6. Each writing assignment can be completed in a laboratory hour and graded by an aide or by the student himself for immediate feedback.
7. The student concentrates on one skill at a time, so the chances of error are greatly reduced. The materials are non-threatening to a student with low self-confidence.

8. Assignments begin with simple skills like proofreading and become progressively more difficult. Later assignments build upon earlier ones for a reinforcing effect.
9. The content is relevant to the interests of young adults and college students. Exercises deal with understanding oneself and others, attitudes needed for success, healthy personality, marriage, effects of diet upon learning, finding and keeping a job, etc.
10. Assignments provide practical, job-related skills such as writing a business letter and a letter of application.
11. The remedial student can have the experience of writing many perfect papers, thus building confidence and self-image. He may rewrite a paper until it is perfect, just as he would do on a job, but he should be able to master every lesson in one or two tries.

Using these guidelines, the author wrote thirty lessons, each with an accompanying controlled writing exercise, moving through a sequence from proofreading skills through writing a business letter and a letter of application. These materials were then reviewed by four colleagues who teach English composition in a community college, and their suggestions were incorporated. The author worked every exercise herself and made up an answer key; a college student also worked every exercise prior to their use in a classroom as a means of pre-testing the materials. A list of the lessons and topics appears in Appendix D.

Control of Variables Affecting Achievement

Because Sacramento City College did not have computerized registration, and for other administrative reasons, it was not possible to obtain randomized groups for the study. Therefore the technique of matched groups was employed. One group was drawn from two sections of English A (holistic group) and the contrasting group from three sections of English M/N (fragmented mini-course group).

Two sequential mini-courses of English M (Sentence Structure) and English N (Advanced Sentence Structure) were chosen from among the various mini-courses at Sacramento City College because the subject matter came closer to the subject matter of English A (Basic Writing Laboratory) than did the subject matter of mini-courses in spelling, vocabulary, etc. Both matched groups studied such basics as writing complete sentences, subject-verb agreement, pronoun reference, punctuation, etc., but the mini-course group emphasized the traditional grammatical analysis of sentences, whereas the holistic group emphasized actual writing practice with a minimum of grammar.

Students included in the innovative group (holistic) were drawn from enrollees in English A, a semester course which utilized the holistic methods of free writing, generating sentences from a cluster of associations around a stimulus word, and controlled compositions.

Matching of the groups was done on the basis of the following criteria:

1. Entrance examination scores, on the average, were similar for both the fragmented and the holistic groups. The instrument used was the Stanford Test of Academic Skills (TASK), Level II, Form A. For purposes of this study, scores on the subsection dealing with English grammar and punctuation were used, since they were considered more particularly relevant than the scores from the subsection on reading.

2. High school grades in English, on the average, were similar for both groups. These data were obtained from the college admissions office. In a few cases high school transcripts were not available; this difficulty was overcome by averaging only those which were available.

Letter grades were converted to a four-point numerical system for purposes of averaging.

3. Overall grade point average in high school was similar for both groups. These data were also converted to a four-point numerical system for purposes of averaging.

4. The number of males and females were approximately the same proportions in both groups. According to Henry E. Garrett's book Statistics in Psychology and Education, the matched groups do not necessarily have to be exactly the same size, though a large difference in numbers (N) is not advisable (23:230).

5. Number of students under age 25 and number of students over age 25 were proportionally similar in both the fragmented and the holistic groups.

Drawing from multiple sections (two of English A and three of English M/N) allowed for a larger pool, thus forming a sounder basis for comparison and minimizing the effects of individual differences. As the study was originally planned, students were to be drawn from four sections of English M/N, but because of small enrollment in one section, attrition, and/or incomplete data for matching purposes, no students from the section of English M/N taught by Joan Haug (2:00 p.m. MWF) qualified for inclusion in the research.

Shown in Table I are data for students in the holistic group. For example, one can see that Student LH had a Task II score of E66, a high school grade point average of 3.0, an English grade average of B, and a fluency on the pre-test writing sample of 165 words with 15.8 errors per 100 words. Other data are to be read likewise.

TABLE I
CHARACTERISTICS OF THE HOLISTIC METHOD GROUP^a
(N = 28)

Sex	Over 25?	Student Number	Task II Score	H. Sch. G.P.A.	English Gr. Av.	No. Words	No. Errors ^b
English A -- Section 1							
M	yes	1H	E 66	3.0	B	165	15.8
F	no	2H	E 31	1.81	C-	99	18.2
F	no	3H	E 43	n. a.	n. a.	386	10.6
F	no	4H	E 68	n. a.	n. a.	132	15.1
M	no	5H	E 27	n. a.	n. a.	120	20.8
F	no	6H	E 40	2.0	C	393	8.4
F	no	7H	E 35	1.3	C	234	10.3
M	yes	8H	E 54	2.12	C-	116	9.5
F	no	9H	E 43	3.0	B	116	12.1
F	no	10H	E 50	n. a.	n. a.	141	8.5
F	no	11H	E 37	2.82	B	120	11.7
M	yes	12H	E 42	n. a.	n. a.	178	10.1
F	no	13H	E 38	2.93	B-	164	10.4
English A -- Section 2							
M	no	14H	E 42	2.91	C-	248	12.9
F	no	15H	E 43	1.78	D	190	10.5
M	yes	16H	E 10	3.0	C	142	17.6
F	no	17H	E 30	3.0	B-	281	9.6
M	no	18H	E 37	2.0	C	215	16.3
M	no	19H	E 37	2.11	C+	264	14.8
F	no	20H	E 63	1.25	C+	111	3.6
F	yes	21H	E 57	2.92	C+	93	8.6
F	no	22H	E 51	n. a.	n. a.	267	6.4
M	yes	23H	E 24	1.0	D	259	30.9
F	no	24H	E 36	2.8	B	185	7.6
F	yes	25H	E 55	1.0	C-	173	7.5
M	no	26H	E 50	1.9	C-	133	12.0
F	yes	27H	E 39	2.76	C+	109	15.6
F	no	28H	E 42	2.76	B	248	4.0
Medians:			E 42	2.76	C+	178	10.6
Averages:			E 42.5	2.75	2.26	188.6	11.9

^aThe holistic group included 3 foreign and 7 Spanish-speaking students.

^bErrors per 100 words of writing

Viewing data in Table I, one can see that the Task II scores ranged from 10 to 68 with a median of 42. Available high school grade point averages ranged from 1.0 to 2.93 with a median of 2.76 and an average of

2.75. The number of words written on the pre-test ranged from 93 words to 393 words, with a median of 178 words and an average of 188.6 words. The number of errors per 100 words of writing ranged from 3.6 to 30.9, with a median of 10.6 and an average of 11.9. Not shown in Table I are the standard deviations for the Task II scores, number of words written, and number of errors per 100 words. Standard deviations were, respectively, 12.6, 79.6, and 5.5. (Also see Table VIII.)

Data presented in Table II for the fragmented group are to be read and interpreted in a fashion similar to that employed in Table I. One can see that the Task II scores ranged from 20 to 65 with a median of 43. Available high school grade point averages ranged from 1.95 to 3.70, with a median of 2.80 and an average of 2.75. The median high school English grade was C+, or an average of 2.5 when converted to numerical form on a four-point scale. The number of words written on the pre-test ranged from 188 to 439 words, with a median of 188 words and an average of 205.1 words. The number of errors per 100 words of writing ranged from 1.9 to 26.0, with a median of 10.8 and an average of 10.1. Errors were computed on the basis of those made per 100 words, rather than total errors per paper, to facilitate comparisons between pre-test and post-test scores. It was reasoned that students who made gains in fluency over the semester period might risk making more errors as they wrote more sentences. In order not to penalize gains in fluency, therefore, errors were computed on the basis of those made per 100 words of writing. The footnote regarding foreign students and Spanish-speaking students recognizes that such students are likely to make more errors than native speakers of English, but both groups had approximately the same proportion of these students.

TABLE II
CHARACTERISTICS OF THE FRAGMENTED METHOD GROUP^a
(N = 31)

Sex	Over 25?	Student Number	Task II Score	H. Sch. G.P.A.	English Gr. Av.	No. Words	No. Errors ^b
<u>English M/N -- Section 1</u>							
F	no	1F	E 43	2.13	D+	214	10.7
F	no	2F	E 50	2.23	C	173	8.1
M	no	3F	E 58	3.36	B	268	1.9
F	yes	4F	E 50	2.72	C	339	2.4
F	no	5F	E 62	3.04	B	256	4.7
M	yes	6F	E 32	2.06	C+	158	10.8
M	no	7F	E 49	3.48	B+	242	11.6
F	no	8F	E 56	2.93	B-	335	2.1
F	no	9F	E 44	2.12	C-	182	14.3
F	no	10F	E 48	1.95	D+	157	7.6
M	no	11F	E 31	n. a.	n. a.	217	13.4
M	no	12F	E 35	2.28	C+	177	26.0
F	no	13F	E 47	3.09	B	164	9.1
<u>English M/N -- Section 2</u>							
F	yes	14F	E 36	2.50	D	120	16.7
F	yes	15F	E 61	3.59	B	243	4.9
F	no	16F	E 40	n. a.	n. a.	284	9.9
M	no	17F	E 20	n. a.	n. a.	144	17.4
F	no	18F	E 30	2.19	C	194	11.3
<u>English M/N -- Section 3</u>							
M	no	19F	E 41	2.80	C	219	14.2
F	yes	20F	E 28	n. a.	n. a.	135	17.0
F	no	21F	E 31	2.5	B	118	19.5
F	yes	22F	E 30	3.7	A-	167	10.8
F	no	23F	E 46	3.63	B+	138	5.8
F	no	24F	E 50	3.03	A-	213	8.0
F	no	25F	E 60	2.56	C+	439	3.9
F	yes	26F	E 65	n. a.	n. a.	147	3.4
F	no	27F	E 50	3.00	B	185	9.2
F	yes	28F	E 36	3.50	B	213	14.5
F	no	29F	E 31	2.33	C	188	17.5
M	no	30F	E 25	2.90	B	209	19.1
M	no	31F	E 35	1.96	B-	121	23.1
Medians:			E 43	2.80	C+	188	10.8
Averages:			E 42.6	2.75	2.5	205.1	10.1

^aThe fragmented group included 4 foreign and 6 Spanish-speaking students.

^bErrors per 100 words of writing

Shown in Table III are data which compare the characteristics of the holistic method group and the fragmented method group. Viewing data in Table III, one can see that the holistic method group had a total of 28 students, 10 of whom were males and 8 of whom were over the age of 25. The median Task II score for English was 42, the average for available high school grade point averages was 2.75, and the average English grade in high school was 2.26 or C-plus on a four-point scale. This group wrote an average of 188.6 words on their pre-test compositions and made approximately 11.9 errors per 100 words of writing. Data for the fragmented method group are to be read likewise.

TABLE III
CHARACTERISTICS OF HOLISTIC AND FRAGMENTED GROUPS^a

Group	No. in Group	No. Males	No. Over 25	Median Task II Score	Avg. H. S. G.P.A.	Avg. Eng. Grade	Avg. Essay Length	Avg. Essay Errors ^b
Holistic	28	10	8	E 42	2.75	2.26	188.6	11.9
Fragmented	31	9	8	E 43	2.75	2.50	205.1	10.1

^aThe holistic group included 3 foreign and 7 Spanish-speaking students; the fragmented group included 4 foreign and 6 Spanish-speaking students.

^bErrors per 100 words of writing

Median scores formed the basis for comparison of Task II scores because the median is less affected by extremes of high and low scores than the average would be. Averages were used for essay length and number of errors per 100 words because these data from the pre-test writing sample were to be compared to data from the post-test writing sample. It was hoped that all students would improve proportionately in accordance with their ability, an occurrence which would be best reflected

in averages. Medians and averages came very close for the other data--high school grade point averages and English grades.

From Table I, Table II, and Table III, it may be concluded that the groups were quite closely matched in terms of size, number of males, number of students over age 25, median scores on the entrance examination subsection on English, average high school grade point averages, and average high school grades in English. As might have been predicted on the basis of the other factors used in matching, the students' performance on the pre-test writing sample was also quite similar for both groups; the holistic method group wrote an average of 188.6 words with 11.9 errors per 100 words, and the fragmented method group wrote an average of 205.1 words with 10.1 errors per 100 words.

Control of Environmental Factors

Results of a study such as this may be influenced by such variables as size of class, quality of instruction, time of day, and even classroom environment. The following precautions were taken to control for these factors as much as possible.

1. Class size. The holistic group was drawn from two sections of English A with an enrollment of approximately 35 students each. Since there were two instructors for each English A section, the student-teacher ratio was approximately 18 to 1 at the beginning of the semester. The fragmented group was drawn from three sections of English M/N, with an average size of 20 students each, and one instructor per section.

2. Quality of instruction. The research, with twelve years of experience, was teamed in one of the English A sections with Dr.

Dorothy Bray, who has had twenty-two years of experience. In the other section of English A, the researcher was teamed with Mrs. Nancy McGrath, who has had ten years of experience. Instructors of English M and English N have had, respectively, fourteen years (John Valone) and twelve years (Fred Hoyt). Thus all instructors were well experienced. Since they all volunteered for their present teaching assignments, it can be assumed that they were each concerned for remedial students and willing to work with them. (Valone taught two sections of English M/N.)

3. Time of day. As originally planned, both the fragmented and the holistic groups had both morning and afternoon sections. However, as previously mentioned, none of the students in the section of English M/N which met at 2:00 p.m. on Monday/Wednesday/Friday qualified for inclusion in the matched groups, either because they did not complete both mini-courses (M and N) or because the proper data were not available for matching them (e.g. entrance examination scores). Meeting times for the other sections of English M/N were 8:00, 10:00, and 11:00 a.m., Monday/Wednesday/Friday. Meeting times for the two English A sections were 1:00 p.m. Monday/Wednesday/Friday and 10:45-12:00 noon on Tuesday/Thursday.

4. Classroom environment. All classes involved met in traditional classrooms with writing-arm chairs which could be rearranged if desired. All classes met in modern, new, pleasant buildings.

Conditions of Administering Pre-test and Post-test

For the purpose of measuring gains, writing samples were taken at the beginning and at the end of the semester for both treatment groups. A careful analysis of all pre-test compositions by a single evaluator

established a reasonably uniform baseline for the measurement of improvement during the semester. The same evaluator analyzed the post-tests, using the same categories and criteria. The evaluator determined fluency by a simple word-count and classified the mechanical errors into categories of frequently-made errors. By this means, improvement from pre-test to post-test was measured with reasonable precision.

In collecting the data for comparison, the following precautions were taken to insure the greatest possible control over both groups in standardizing conditions under which the research was conducted.

1. All students were allowed the same amount of time--a fifty-minute class period--to complete their writing samples.

2. The topic was uniform for all students, approved in advance by all instructors concerned. The chosen topics did not require any specialized background or knowledge, but permitted the student to support his assertions from his personal experience. Topic for the pre-test writing sample was the effects of television on children's education (see Appendix A). Topic for the post-test writing sample was making a choice between candidates who espoused different views on how to deal with the energy crisis (see Appendix C).

3. Instructions were written out and duplicated so that they were identical for all students. These instructions were placed at the top of the topic assignment sheet.

4. All writing samples were evaluated by the same evaluator, who used a check-list of categories for different kinds of errors (see Appendix B). Although a certain amount of subjectivity is inevitable in evaluating such factors as the adequacy of paragraphing or the extent

to which the writer develops his thesis, the checklist made the evaluation as objective as is humanly possible. Moreover, as mentioned previously, the measure of improvement for purposes of this study was limited to the most measurable, most objective factors--a word-count for fluency and a tally of mechanical errors.

Monitoring the Use of Holistic Materials

Inasmuch as the controlled composition materials were developed as a tool with which to implement holistic instruction, an important part of evaluating their effectiveness for that purpose was the daily monitoring of their use in the classroom and noting whether students seemed to be able to understand the lessons and apply them correctly to the exercises.

To achieve this end, the author donated approximately fifteen to twenty hours per week of professional time to Sacramento City College during her sabbatical leave from Bakersfield College. During that time she taught both sections of English A, prepared for classes, checked papers, conferred with students, conferred with other instructors, and attended relevant department meetings. She noted any difficulties the students were having with the materials and refined the lessons and exercises in a few places where they seemed to need improvement.

This activity required a great deal of time, but it resulted in firsthand observation of the holistic process as it was implemented with these materials; moreover, it provided experiential background for the subsequent interpretation of the data, discussion of it, and recommendations growing out of it.

Analysis and Treatment of Results

Since sample statistical treatments are not appropriate for a study of total population groups, the comparisons of gains in fluency and error-reduction scores depended upon the use of means and standard deviations, interpreted by the researcher in terms of criteria established by qualified peer teachers collectively for interpreting the significance of gain scores in terms of "very significant," "slightly significant," or "not significant."

To establish the evaluation criteria, seven experienced instructors of English at Sacramento City College, including the five who participated in this study with the researcher, reached a consensus prior to the study that gains of the following magnitude should be considered significant:

1. For increase in fluency, as measured by the number of words written on the post-test composition in excess of the number of words written on the pre-test composition:
 - a. Fluency increase of less than 10 percent would be "not significant."
 - b. Fluency increase of 10 to 19 percent would be "slightly significant."
 - c. Fluency increase of 20 percent or more would be "very significant."
2. For decrease in errors, as measured by the number of errors per 100 words of writing on the post-test composition subtracted from those on the pre-test composition:
 - a. Error reduction of under 25 percent would be "not

significant."

- b. Error reduction of 25 to 49 percent would be "slightly significant."
- c. Error reduction of 50 percent or more would be "very significant."

Findings were arranged in tables, analyzed, and discussed in terms of implications and recommendations. The data appear in Chapter 4 along with interpretive comments. Although it was not part of the original study design, coefficients of correlation were calculated to determine whether a correlation existed between errors and fluency for both treatment groups. These data also appear in Chapter 4. A summary of findings, conclusions, and recommendations appears in Chapter 5.

Chapter 4

PRESENTATION AND INTERPRETATION OF FINDINGS

In this chapter the results of the study are reported; the post-test performances are compared to the pre-test performances; and the types of errors made on both tests are analyzed. The performance of the holistic method group is compared to that of the fragmented method group. Performance is further analyzed by categories of age and sex. Correlation coefficients showing the relationship between fluency and errors are presented. Characteristics of the respondents were presented in Chapter 3 under procedures used in matching the groups.

Comparison of Results of Pre-test and Post-test

Shown in Table IV are data comparing pre-test and post-test performances for the holistic method group. Viewing this table, one can see that, on the pre-test composition, Student Number 1H wrote 165 words and made 26 errors, or 15.8 errors per 100 words. On the post-test, the student wrote 232 words and made 11 errors, or 4.7 errors per 100 words. Other data are to be read likewise. Group totals at the bottom of the table reveal that the 28 students in the group wrote a total of 5,282 words and made 630 errors on the pre-test compositions, or an average of 11.9 errors per 100 words when 630 is divided by 52.82 (i.e., 1/100th of the total words). Due to rounding of numbers to the nearest tenth, a slightly discrepant figure of 12.1 resulted when the group average was calculated by dividing the total of column 4 (339.4)

TABLE IV
HOLISTIC GROUP FLUENCY AND ERROR SCORES
ON PRE-TEST AND POST-TEST

Student Number	Pre-test Scores			Post-test Scores		
	Total Words	Total Errors	Errors per 100 Words	Total Words	Total Errors	Errors per 100 Words
1H	165	26	15.8	232	11	4.7
2H	99	18	18.2	158	23	14.6
3H	386	41	10.6	258	16	6.2
4H	132	20	15.1	276	3	1.1
5H	120	25	20.8	203	22	10.8
6H	393	33	8.4	288	10	3.5
7H	234	24	10.3	271	19	7.0
8H	116	11	9.5	83	8	9.6
9H	116	14	12.1	222	9	4.0
10H	141	12	8.5	362	23	6.3
11H	120	14	11.7	192	11	5.7
12H	178	18	10.1	230	13	5.6
13H	164	17	10.4	247	8	3.2
14H	248	32	12.9	182	9	5.0
15H	190	20	10.5	225	15	6.7
16H	142	25	17.6	110	16	14.5
17H	281	27	9.6	204	11	5.4
18H	215	35	16.3	299	37	12.4
19H	264	39	14.8	286	27	9.4
20H	111	4	3.6	143	3	2.1
21H	93	8	8.6	237	13	5.5
22H	267	17	6.4	208	9	4.3
23H	259	80	30.9	213	44	20.7
24H	185	14	7.6	277	10	3.6
25H	173	13	7.5	195	9	4.6
26H	133	16	12.0	196	18	9.2
27H	109	17	15.6	207	20	9.7
28H	248	10	4.0	203	6	3.0
Totals	5,282	630	339.4	6,207	423	198.4
Average	188.6	22.5	11.9 ^a (12.1)	221.7	15.1	6.8 ^a (7.1)

^aDiscrepancies between these averages and those shown below in parentheses are due to rounding of numbers to the nearest tenth, as explained in the introduction to Table IV. The first figure was deemed more accurate than the figure in parentheses and was the one used throughout this paper.

TABLE V
FRAGMENTED GROUP FLUENCY AND ERROR SCORES
ON PRE-TEST AND POST-TEST

Student Number	Pre-test Scores			Post-test Scores		
	Total Words	Total Errors	Errors per 100 Words	Total Words	Total Errors	Errors per 100 Words
1F	214	23	10.7	348	32	9.2
2F	173	14	8.1	210	9	4.3
3F	268	5	1.9	226	2	.9
4F	339	8	2.4	260	16	6.1
5F	256	12	4.7	248	11	4.4
6F	158	17	10.8	187	24	12.8
7F	242	28	11.6	193	13	6.7
8F	335	7	2.1	316	9	2.8
9F	182	26	14.3	203	23	11.3
10F	157	12	7.6	348	20	5.7
11F	217	29	13.4	93	8	8.6
12F	177	46	26.0	180	24	13.3
13F	164	15	9.1	167	14	8.4
14F	120	20	16.7	88	11	12.5
15F	243	12	4.9	296	9	3.0
16F	284	28	9.9	189	15	7.9
17F	144	25	17.4	90	9	10.0
18F	194	22	11.3	108	19	17.6
19F	219	31	14.2	114	19	16.7
20F	135	23	17.0	106	13	12.3
21F	118	23	19.5	135	19	14.1
22F	167	18	10.8	153	32	20.9
23F	138	8	5.8	195	8	4.1
24F	213	17	8.0	192	20	10.4
25F	439	17	3.9	167	4	2.4
26F	147	5	3.4	80	6	7.5
27F	185	17	9.2	114	6	5.3
28F	213	31	14.5	178	20	11.2
29F	188	33	17.5	141	11	7.8
30F	209	40	19.1	172	29	16.9
31F	121	28	23.1	235	34	14.5
Totals	6,359	640	348.9	5,732	489	289.7
Average	205.1	20.6	10.1 ^a (11.2)	184.9	15.8	8.5 ^a (9.3)

^aDiscrepancies between these averages and those shown below in parentheses are due to rounding of numbers to the nearest tenth, as explained in the introduction to Table IV. The first figure was deemed more accurate than the figure in parentheses, and was the one used throughout this paper.

by N (28). The figure of 11.9 was considered the more accurate of the two and was the one used throughout this paper. The two averages in column 7 should be interpreted in the same way.

Table V provides the same information as in Table IV, but for the fragmented method group. It should be read in a similar manner. For instance, one can see that, on the pre-test composition, Student 1F wrote 214 words and made 23 errors, or an average of 10.7 errors per 100 words. On the post-test composition, this student wrote 348 words and made 32 errors, or an average of 9.2 errors per 100 words. Other data are to be read likewise. Group totals at the bottom of the table reveal that the 31 students in the fragmented group wrote a total of 6,359 words and made 640 errors on the pre-test compositions, or a group average of 10.1 errors per 100 words of writing when 640 was divided by 63.59 (i.e., 1/100th of the total words). Due to rounding of numbers to the nearest tenth, a slightly discrepant figure of 11.2 resulted when the group average was calculated by dividing the total of column 4 (348.9) by N (31). The figure of 10.1 was considered the more accurate of the two and was the one used throughout this paper. The two averages in column 7 should be interpreted in the same way.

Comparison of Results for the Two Treatment Groups

A preliminary step in comparing the two treatment groups was to compute the mean, range, and standard deviation for each group on the pre-test and post-test compositions. These data are shown in Table VI. Viewing these data, one can see that the Holistic Group, on the pre-test compositions, had a mean of 189 words, a range of 300 words (from

TABLE VI
RAW SCORE RESULTS BY TEST FOR THE TREATMENT GROUPS

Treatment Group by Test	Pre-test Scores ^a			Post-test Scores ^a		
	Mean	Range	SD ^b	Mean	Range	SD ^b
Holistic Group						
Fluency	189	300	79.6	222	279	57.4
Errors per 100 words	11.9 ^c (12.1)	27.3	5.5	6.8 ^c (7.1)	19.6	4.3
Fragmented Group						
Fluency	205	321	70.7	185	268	72.8
Errors per 100 words	10.1 ^c (11.2)	24.1	6.3	8.5 ^c (9.3)	20.0	5.0

^aComplete data are located in Tables IV and V.

^b

SD means standard deviation.

^cDiscrepancies between these averages and those shown below in parentheses are due to rounding of numbers to the nearest tenth. The first figure was deemed more accurate and was used throughout this paper.

a low of 93 to a high of 393 as can be seen in Table IV), and a standard deviation of 79.6. This same group on the post-test had a mean of 222 words, a range of 279 words (from a low of 83 to a high of 362 as can be seen in Table IV), and a standard deviation of 57.4. Figures for errors per 100 words were carried to the hundredth place and rounded to the closest tenth; therefore slight discrepancies occurred in calculating the mean errors per 100 words by different methods. As explained in the introduction to Table IV, if the mean was calculated by dividing the total errors made by the group (630) by 52.82 (or 1/100th of the total words), the mean was 11.9 errors per 100 words. If, on the other hand,

individual error scores were calculated, rounded to the nearest tenth, added in a column, and then divided by N or 28, the mean was 12.1. Both figures have been inserted in the table to minimize any possible confusion, but the first figure was considered the more accurate and was the one used throughout this paper.

Another preliminary step before comparing the performance of the two treatment groups was to calculate the standard deviations for improvement scores. Improvement scores were ascertained by listing each member of each treatment group and subtracting his pre-test score from his post-test score. The standard deviation was then calculated for the whole group on these improvement scores. The results are shown in Table VII.

TABLE VII
IMPROVEMENT SCORES BY TEST AND TREATMENT GROUP

Treatment Group by Test	Difference between Pre-test and Post-test Scores		
	Mean	Range	Standard Deviation
Holistic Group			
Fluency	33	150	80.6
Errors per 100 words	5.1	15	3.1
Fragmented Group			
Fluency	-20	463	82.5
Errors per 100 words	1.5	22	4.6

Viewing data in Table VII, one can see that the holistic group had a mean fluency improvement of 33 words, a range of 150 words (that is, a difference of 150 words between the lowest improvement score and

the highest improvement score), and a standard deviation of 80.6. Other data are to be read likewise. Improvement scores in errors per 100 words should be interpreted as reduction in errors per 100 words (that is, the holistic group had an average of 5.1 fewer errors on the post-test than on the pre-test, and the fragmented group had 1.6 fewer errors).

Comparison of Treatment Groups for Fluency
Increase and Error Reduction

Shown in Table VIII are data comparing the average scores of the two treatment groups on pre-test and post-test compositions, together with a detailed analysis of the types of errors made by each group on each test. Because of the necessarily small figures for the types of errors, all figures on this table were carried to the thousandth place and rounded to the nearest hundredth. Thus they may differ slightly from figures on other tables, which were rounded at the nearest tenth. Reading the data in Table VIII, one can see that the fragmented group averaged 205.13 words per composition on the pre-test and 184.90 words on the post-test, a reduction of 20.23 words in fluency, or a decrease of 9.9 percent from the pre-test performance. In contrast, the holistic method group averaged 188.64 words per composition on the pretest and 221.67 on the post-test, an increase of 33.03 words, or an improvement of 17.5 percent in fluency over the pre-test performance.

Data regarding errors shown in Table VIII are based on the number of errors per 100 words, broken down into specific types of errors. One can see, for example, that the error of "confusing sentence structure" was made an average of .50 times per 100 words by the fragmented group on the pre-test compositions and .58 times per 100 words by that

TABLE VIII
COMPARISON OF AVERAGE SCORES ON WRITING SAMPLES

Types of Writing Performance	HOLISTIC GROUP (N=28)				FRAGMENTED GROUP (N=31)			
	Pre-test	Post-test	Difference	Per-cent Change	Pre-test	Post-test	Difference	Per-cent Change
Fluency (average words per paper)	188.64	221.67	+33.03	17.5	205.13	184.90	- 20.23	-9.9
Standard Deviations for Fluency	79.65	57.41	-22.24		70.69	72.76	+ 2.07	
Errors (average number per 100 words)								
1. Confusing sentence structure	.42	.29	-.13		.50	.58	+.08	
2. Fragments (incomplete sentences)	.40	.23	-.17		.15	.14	-.01	
3. Fused or spliced sentences	.72	.47	-.25		.46	.40	-.06	
4. Noun plurals, improper	.53	.16	-.37		.59	.40	-.19	
5. Verb-subject agreement	.19	.11	-.08		.33	.26	-.07	
6. Verbs, wrong form or tense	.28	.10	-.18		.57	.10	-.47	
7. Pronouns, faulty ref. or case	.66	.15	-.51		.33	.23	-.10	
8. Pronouns, shift in person	.27	.06	-.21		.15	.02	-.13	
9. Punctuation, end marks	.19	.13	-.06		.15	.10	-.05	
10. Punctuation, other errors	2.25	1.32	-.93		1.41	.78	-.63	
11. Capitalization errors	.98	.26	-.72		.53	.38	-.15	
12. Wrong word or usage	.78	.55	-.23		.85	1.15	+.30	
13. Omission of words	.55	.40	-.15		.68	.92	+.24	
14. Omission of letters	.23	.06	-.17		.30	.24	-.06	
15. Misspelling or miswriting	2.63	2.10	-.53		2.11	2.20	+.09	
16. Apostrophe misused or missing	.42	.14	-.28		.25	.16	-.09	
17. Sentences wordy, not concise	.09	.06	-.03		.20	.12	-.08	
18. Other	.34	.23	-.11		.47	.33	-.14	
Total these columns ^a	11.93	6.82	-5.11	42.9	10.03	8.51	-1.52	15.2
Group mean errors per 100 words	11.92	6.81	-5.11		10.06	8.53	-1.53	
Standard Deviations for errors ^b	5.47	4.33	-1.14		6.30	4.99	-1.31	

^aMinor discrepancies between column totals and group mean errors below are due to rounding of numbers.

^bCalculated upon errors per 100 words by each group member, deviating from means of 11.92 and 10.06.

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group on the post-test compositions. This error thus actually increased in frequency by .08 times per 100 words on the average for that group. The holistic group, however, made this error an average of .42 times per 100 words on the pre-test compositions and .29 times on the post-test compositions, thus making this error an average of .13 times less often per 100 words after training. Other data are to be read likewise.

Standard deviation figures shown in Table VIII are dealt with more fully in the next subsection of this chapter, "Comparison of Means and Standard Deviations." One figure bears explanation here, however--the difference in standard deviations between pre-tests and post-tests. This difference showed that the variance in fluency scores for the fragmented group increased slightly (2.07 words per paper). The variance for the holistic group decreased (22.24 words per paper), indicating a greater homogeneity among scores for that group.

In interpreting the data in Table VIII and others, it must be kept in mind that the desirable direction for fluency scores is toward an increase in the number of words written, whereas the desirable direction for error scores is toward a decrease in the number of errors made per 100 words of writing. Data in Table VIII reveal that the group of students taught by the holistic mode of instruction increased the average length of their compositions, as mentioned above, by an average of 33.03 words per paper, or 17.5 percent improvement over their pre-test performance. In contrast, the group taught by the fragmented mode of instruction wrote fewer words on the post-test composition than they had done on the pre-test compositions, showing an average decrease of 20.23 words per paper, or 9.9 percent fewer words than they had averaged on their pre-test compositions.

Although both groups decreased their errors, gains in error reduction were greater for the group taught by the holistic mode (also referred to as the holistic group) than they were for the group taught by the fragmented mode (also referred to as the fragmented group). The holistic group averaged 11.92 errors per 100 words of writing on their pre-test compositions, but only 6.81 errors per 100 words on their post-test compositions, a reduction of 5.11 errors per 100 words, or a 42.87 percent improvement over the pre-test score.

The fragmented group averaged 10.06 errors per 100 words on the pre-test and 8.53 errors on the post-test, an average reduction of 1.53 errors, or a 15.21 percent improvement over the pre-test score. Thus the holistic group started with more errors and ended with fewer errors than did the fragmented group. The holistic group reduced errors in all categories, but the fragmented group increased errors in four categories: confusing sentence structure, wrong word or usage, omission of words, and misspelling or miswriting.

For the fragmented group, the five largest error categories in order of greatest decrease (i.e., improvement) were those of punctuation errors other than end marks, wrong form or tense of verbs, improper noun plurals, capitalization errors, and shift in person of pronouns. For the holistic group, the five largest error categories in order of greatest decrease (i.e., improvement) were those of punctuation other than end marks, capitalization errors, misspelling or miswriting, faulty reference or case of pronouns, and improper noun plurals. The fragmented group made particularly large reductions in verb tense errors, whereas the holistic group made particularly large reductions in punctuation

errors other than end marks.

In general, the errors listed toward the top in Table VIII are considered more serious by composition teachers than those listed toward the bottom. Major sentence errors such as unclear structure of sentences, incomplete sentences, and fused sentences were reduced more in the holistic group than in the fragmented group. In fact, the fragmented group made more structural errors on the post-test compositions than it did on the pre-test compositions. For that group, moreover, fused sentences and incomplete sentences were reduced only slightly. The holistic group, however, reduced sentence structural errors from an average of .42 to .29 per 100 words, incomplete sentences from .40 to .23, and fused sentences from .72 to .47.

Errors of misspelling or miswriting, though not generally considered as important as errors in sentence construction, were tabulated for comparison of improvement in minor skills. The fragmented group showed no improvement in spelling; in fact, their spelling errors increased from an average of 2.11 to 2.20 per 100 words. The holistic group, however, reduced misspelling and miswriting from an average of 2.63 errors to 2.10 errors per 100 words.

Comparison of Means and Standard Deviations

In addition to data about errors, means and standard deviations were presented in Table VIII for pre-test and post-test scores of both treatment groups. By subtracting the number of words in each person's pre-test composition from the number of words in his post-test composition, a score was obtained which constituted a rough measure of in-

creased fluency. The resulting score was a positive number for those who wrote more on the post-test composition than they did on their pre-test composition. Conversely, the score was a negative number for those who wrote fewer words on the post-test composition than they had on their pre-test composition. Mean "fluency increase" scores, obtained by adding positive and negative individual scores and dividing by N, were -20.23 words for the fragmented group and +33.03 words for the holistic group.

Standard deviations as shown in Table VIII also indicate that the fluency scores of the fragmented group tended to become more dispersed, or less homogeneous, with training. The standard deviation for that group on the pre-test was 70.69 and on the post-test was 72.76. In contrast, the standard deviations for the holistic group indicate that their fluency scores tended to become less dispersed, or more homogeneous, after training. The standard deviation for the holistic group's fluency score was 79.65 on the pre-test and 57.41 on the post-test.

Standard deviations for error scores shown in Table VIII may be compared in a manner similar to that of fluency scores. Both groups moved toward greater homogeneity than they had had in the beginning. The fragmented group, on the pre-test, had a total of 10.06 mean errors per 100 words with a standard deviation of 6.30. On the post-test, they had a total of 8.53 mean errors per 100 words with a standard deviation of 4.99. Similarly, the holistic group moved toward greater homogeneity. On the pre-test, they had a total of 11.92 mean errors per 100 words with a standard deviation of 5.47. On the post-test, they had a total

of 6.81 mean errors per 100 words with a standard deviation of 4.33.

The data in Table VIII are consistent with the data in Table VI, except that the figures in Table VI have been rounded to the nearest whole number for fluency scores and one place to the right of the decimal for error scores and standard deviations.

Comparison of Improvement Between Groups

Shown in Table IX are data comparing improvement shown by the two treatment groups. These data should be read as follows. Fluency increase was negative in the fragmented group (-20.2 words) and positive in the holistic group (+33.0 words), with the difference between the two means being 53.2 words. The standard deviations for fluency were 82.5 for the fragmented group and 80.6 for the holistic group. Other data are to be read likewise.

TABLE IX
COMPARISON OF FRAGMENTED GROUP AND HOLISTIC GROUP
FOR IMPROVEMENT IN WRITING SAMPLES

Type of Improvement	Frag-mented Mean	Hol-istic Mean	Dif-fer-ence	Frag-mented St.Dev.	Hol-istic St.Dev.
Fluency, increase	-20.2 wds	33.0 wds	53.2 wds	82.5	80.6
Percent increased	9.9 %	17.5 %	27.4 %		
Errors, decrease	1.5 err	5.1 err	3.6 err	4.6	3.1
Percent decreased	15.2 %	42.9 %	27.7 %		

As the data in Table IX reveal, the fragmented group showed a mean "fluency increase" score of -20.2 words, or a decrease of 9.9 percent between pre-test and post-test fluency scores. In contrast, the

holistic group showed a mean "fluency increase" score of 33.0 words, or an increase of 17.5 percent between pre-test and post-test. Thus the holistic group averaged 53.2 words more than the fragmented group, and only the holistic group moved in the desirable direction of increased fluency.

For errors, the desirable direction was toward a decreasing number. Both groups moved in the desirable direction, but the holistic group moved further. The fragmented group showed a mean error reduction of 1.5 errors per 100 words of writing (15.2 percent fewer errors on the post-test than on the pre-test), whereas the holistic group showed a mean error reduction of 5.1 errors per 100 words of writing (42.9 percent fewer errors on the post-test than on the pre-test). Difference between the two means was 3.6 errors per 100 words; in other words the holistic group averaged 3.6 fewer errors per 100 words than did the fragmented group.

A comparison of standard deviations revealed that the scores of the fragmented group were more dispersed, but the difference between the two groups was slight. The range of fluency increase scores for the fragmented group was -272 to 191, with a mean of -20 and a standard deviation of 82.5. The range of fluency increase scores for the holistic group was -128 to 144, with a mean of 33.0 and a standard deviation of 80.6.

Greater differences were observed in the standard deviations for error-reduction scores. On these, the range for the fragmented group was -9 to 9, with a mean of 1.5 and a standard deviation of 4.6. The range for the holistic group was -1 to 14, with a mean of 5.1 and a standard deviation of 3.1. Standard deviations in Table IX were

computed as follows. By subtracting the number of errors on the post-test from the number of errors on the pre-test, "error reduction" scores were obtained for the members of each group. The total mean "error reduction" score was 1.5 errors per 100 words for the fragmented group. The mean was 5.1 errors for the holistic group. Individuals from each of the treatment groups were listed and their scores for "error reduction" subtracted from the respective group error reduction means. Standard deviations on these error reduction scores were then calculated at 4.6 for the fragmented group and 3.1 for the holistic group. Thus training was followed by greater homogeneity in the holistic group than it was in the fragmented group.

The data in Table IX are consistent with the data in Table VI with the exception that in Table VI, fluency scores have been rounded to the nearest whole number.

Analysis of Performance by Sex Category

To determine whether males and females performed differently in and between the two treatment groups, results were analyzed by sex within each group. Approximately two-thirds of the students in both groups were females. Shown in Table X are data from an analysis of results for males and females. Viewing data in Table X, one can see that the number of males in the fragmented group was 9, that they averaged 195.0 words on their pre-test and 165.5 on their post-test for an average loss of 29.4 words, or 15.1 percent fewer words than they had written on their pre-test. Their average errors per 100 words were 15.3 on the pre-test and 11.2 on the post-test, an average de-

crease of 4.1 or 26.8 percent. Other data are to be read likewise.

TABLE X
PERFORMANCE OF TREATMENT GROUPS BY SEX CATEGORY

Treatment Group	N	Mean Words Pre-t.	Mean Words Post-t.	Mean Gain/Loss	Per-cent Gain	Mean ^a Errors Pre-t.	Mean ^a Errors Post-t.	Mean De-crease	Per-cent Decr.
Fragmented									
Males	9	195.0	165.6	-29.4	-15.1	15.3	11.2	4.1	26.8
Females	22	209.3	192.8	16.4	- 7.9	9.6	8.6	1.0 ^b	10.4
Total	31	205.1	184.9	-20.2	- 9.9	10.1	8.5	1.5 ^b (1.6)	15.2 ^b (15.8)
Holistic									
Males	10	184.0	203.4	19.4	10.5	16.1	10.2	5.9	36.6
Females	18	191.2	231.8	40.6	21.2	9.9	5.4	4.5	45.0
Total	28	188.6	221.7	33.0	17.5	11.9	6.8	5.1	42.9 ^b (42.8)

^aPer 100 words of writing

^bDiscrepancies between these totals and those in parentheses below are due to rounding of numbers. The first figure is deemed more accurate and is consistent with totals in other tables.

As shown in Table X, females in both groups performed better than males, but the differences were more pronounced in the fragmented group. In that group, males averaged a drop in fluency of 29.4 words, compared to a drop of only 16.4 words for females who had received similar instruction. Starting with more errors than the females, the males reduced their average errors from 15.3 to 11.2, a reduction of 4.1 errors (or an improvement of 26.8 percent over the pre-test score), but they still had not caught up with the females, who started with an average of 9.6 errors and reduced that average to 8.6, a reduction of 1.0 errors or an improvement of 10.4 percent.

In the holistic group, males gained in fluency by an average

of 19.4 words, or 10.5 percent, but females gained an average of 40.6 words, or 21.2 percent. Males reduced errors from an average of 16.1 to 10.2, or 36.6 percent, but females reduced theirs from 9.9 to 5.4, a reduction of 45.0 percent.

Comparison between the treatment groups revealed that both males and females made greater improvement under the holistic treatment, both in increasing fluency and in reducing errors.

Analysis of Performance by Age

To determine whether the ages of the students were related to their performance, results were analyzed by subdividing the groups into students under age 25 and over age 25. These data are shown in Table XI.

TABLE XI
PERFORMANCE OF TREATMENT GROUPS BY AGE CATEGORY

Treatment Group	N	Mean Words Pre-t.	Mean Words Post-t.	Mean Gain/Loss	Per-cent Gain	Mean ^a Errors Pre-t.	Mean ^a Errors Post-t.	Mean Decrease	Per-cent Decr.
Fragmented									
Over 25	8	190.2	181.0	- 9.2	- 4.9	10.1	10.8	- .7	- 6.9
Under 25	23	210.3	186.3	-24.0	-11.4	11.7	8.8	2.9	24.8 ^b
Total	31	205.1	184.9	-20.2	- 9.9	10.1	8.5	1.5 ^b (1.6)	15.2 ^b (15.8)
Holistic									
Over 25	8	154.4	188.4	+34.0	22.0	14.4	9.4	5.0	34.7
Under 25	20	202.3	235.0	+32.7	16.1	11.2	6.2	5.0	44.6 ^b
Total	28	188.6	221.7	+33.0	17.5	11.9	6.8	5.1	42.9 ^b (42.8)

^aPer 100 words of writing

^bDiscrepancies between these totals and those in parentheses below are due to rounding of numbers. The first figure is deemed more accurate and is consistent with totals in other tables.

Viewing these data, one can see that the fragmented group had 8 students over the age of 25 and that they averaged 190.2 words on their pre-test and 181.0 on their post-test, for a difference of -9.2 or a loss of 4.9 percent over pre-test performance. These older students averaged 10.1 errors per 100 words on their pre-test and 10.8 on their post-test, for an average decrease of -.7 (that is, in this case, an increase in errors per 100 words whereas the desirable direction is toward decrease), or a negative "gain" of -6.9 percent between pre-test and post-test. Other data are to be read likewise.

As data in Table XI show, students over 25 in both groups were less fluent at the start than their younger counterparts. In the fragmented group, older students dropped in fluency from an average of 190.2 words to 181.0 words, an average decrease of 9.2 words, or a 4.9 percent loss. The younger students dropped even further, however, from an average of 210.3 words to 186.3 words, an average decrease of 24.0 words, or an 11.4 percent loss. The older students in the fragmented group actually increased their errors from an average of 10.1 to 10.8 per 100 words of writing, whereas the younger group decreased their errors from an average of 11.7 to 8.8. Thus the younger group improved by 24.8 percent over their pre-test error-reduction score, whereas the older group regressed by 6.9 percent.

In the holistic group, older students made approximately the same improvement in score points as the younger ones, though they started with lower fluency scores and higher error ratios. They improved from an average of 154.4 words to 188.4 words, an average gain of 34.0 words, or a 22.0 percent improvement over their pre-test scores. Younger students improved from an average of 202.3 words to 235.0 words, an

average gain of 32.7 words, but this was only 16.1 percent better than their pre-test scores because their initial fluency was higher than that of the older students. As for error reductions, older students in this group reduced errors from an average of 14.4 to 9.4 per 100 words, a difference of 5.0 errors, or a 34.7 percent improvement over the pre-test score. Younger students made fewer errors at the start and reduced them from an average of 11.2 to 6.2 per 100 words, a difference of 5.0 or a 44.6 percent improvement.

Comparison between the treatment groups revealed that both older and younger students made greater improvement under the holistic treatment, both in increasing fluency and in reducing errors.

Correlation Between Fluency and Errors

To determine whether any relationship existed between fluency and errors per 100 words, and whether these relationships changed as a result of training, product-moment coefficients of correlation were calculated between fluency and error scores for both the pre-test and post-test scores of the two treatment groups. The following formula was used, with x representing the deviations from the mean in fluency, and y representing the deviations from the mean in errors per 100 words:

$$r = \frac{\sum xy}{\sqrt{(\sum x^2)(\sum y^2)}}$$

The results were as shown in Table XII. Viewing these data, one can see that the correlation coefficient between fluency and error scores for the holistic group was -.2615 on the pre-test and -.2463 on the post-test. Other data are to be read likewise.

TABLE XII
CORRELATIONS OF FLUENCY SCORES AND ERROR SCORES

Treatment Group	Pre-test Correlation Coefficient	Post-test Correlation Coefficient
Holistic	-.2615	-.2463
Fragmented	-.5474	-.2983

For the holistic method group, on the pre-test as well as the post-test, coefficients of correlation were not statistically significant at the .05 level when the magnitude of r was tested against the hypothesis that the population r was in fact zero. There is no good reason to believe any relationship existed between fluency and errors per 100 words in that treatment group. However, the fragmented method group showed a statistically significant inverse relationship at the .01 level between fluency and errors per 100 words on the pre-test. This group also showed a statistically significant inverse relationship at the .05 level between fluency and errors per 100 words on the post-test. There is good reason to believe that some degree of correlation did exist. There was a tendency in this group for higher levels of fluency to be accompanied by fewer errors per 100 words.

From these data, one can infer that with training, the tendency for higher levels of fluency to be accompanied by fewer errors decreased. On the pre-test the most fluent students tended to have the fewest errors per 100 words. This relationship diminished with training. In other words, training resulted in students of all levels of fluency making more nearly the same number of errors or in students having more

nearly the same fluency level regardless of errors made.

Following the various analyses of results as detailed above, the hypotheses of this study were re-examined and conclusions drawn. Those conclusions are set forth and discussed in Chapter 5, along with recommendations growing out of the study.

Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

In this chapter the hypotheses of the study are re-examined, the major findings are briefly summarized, conclusions are drawn regarding the tested hypotheses and the relationships of the findings to professional literature, and recommendations are made. Strategies for diffusion, implementation, and change are included in the recommendations.

The hypotheses tested were as follows:

1. There will be no significant gain in fluency scores within the fragmented group.
2. There will be no significant gain in fluency scores within the holistic group.
3. There will be no significant gain in error reduction within the fragmented group.
4. There will be no significant gain in error reduction within the holistic group.
5. Gain in student achievement in fluency for the holistic group will not be significantly greater than for the fragmented group.
6. Gain in student achievement in error-reduction for the holistic group will not be significantly greater than for the fragmented group.
7. There will be no significant relationship between fluency and errors per 100 words within the fragmented group.

8. There will be no significant relationship between fluency and errors per 100 words within the holistic group.

In hypotheses 1 through 5, the word "significant" relates to criteria for interpreting the magnitude of gain scores developed by the researcher in collaboration with other instructors prior to final results. In hypotheses 7 and 8, the word "significant" means "statistically significant" at the .05 level.

Summary of Findings

From the data appearing in Chapter 4, the following major findings can be summarized:

1. Although they were not a randomized sampling, two groups of students in remedial writing courses at Sacramento City College who were closely matched for entrance examination scores, grade point averages, high school English grades, age, and sex, performed differently after a semester of instruction with different methodological treatments. The study controlled for such variables as teacher effectiveness, teacher-student ratio, time of day, and classroom environment. Pre-test and post-test composition topics were uniform and were evaluated by a single evaluator for fluency and mechanical errors.

2. The group taught with the fragmented mode of instruction (mini-courses in grammar), decreased in fluency by an average of 20 words per paper, or 9.9 percent, and decreased in mechanical errors by an average of 1.5 errors per 100 words, or 15.2 percent. The decrease in fluency was a surprising finding, and the difference was attributed more to lack of development than to greater conciseness. The improvement in error reduction for this group did not reach a

level deemed significant by a jury of English instructors prior to the study.

3. The group taught with the holistic mode of instruction (free writing, controlled composition, and generating sentences from stimulus words) increased in fluency by an average of 33 words per paper, or 17.5 percent. They also decreased mechanical errors by an average of 5.1 per 100 words of writing, or 42.9 percent. Both improvement scores were deemed significant according to criteria established prior to the study by the jury of English instructors.

4. When results were analyzed by types of errors made, the holistic group reduced errors in all categories, whereas the fragmented group actually increased errors in four categories. Those categories were as follows: confusing sentence structure, wrong word or usage, omission of words, misspelling or miswriting.

5. Standard deviations calculated for pre-test and post-test composition scores indicated that fluency scores of the fragmented group became more dispersed after training, whereas fluency scores of the holistic group became less dispersed, or more homogeneous, after training.

6. Standard deviations calculated on pre-test and post-test composition scores indicated that error scores for both groups tended toward greater homogeneity after training.

7. Both males and females made greater improvement under the holistic than under the fragmented method of instruction, both in increasing fluency and in reducing errors.

8. Both older and younger students made more improvement under the holistic than under the fragmented method of instruction, both in increasing fluency and in reducing errors.

9. Correlation coefficients calculated on pre-test and post-test scores for the relationship between fluency and error scores showed no significant relationship in the holistic group. However, a statistically significant inverse relationship existed between fluency and error scores of the fragmented group, both before and after treatment.

Conclusions From the Study

Re-examination of the hypotheses in the light of the major findings led to the following conclusions:

1. Hypothesis No. 1 was supported because the fragmented group did not make a significant gain in fluency--rather a decrease.
2. Hypothesis No. 2 was refuted. Significant gains in fluency were made by the holistic group, whose increased fluency of 17.5 percent fell between the 10 percent which the jury of teachers deemed "slightly significant" and the 20 percent which they deemed "very significant."
3. Hypothesis No. 3 was supported. The error-reduction gains of the fragmented group averaged 15.2 percent, well below the 25 percent established by the jury of teachers as "slightly significant" for evaluating error reduction.
4. Hypothesis No. 4 was refuted. The error-reduction gains of the holistic group averaged 42.9 percent, well above the 25 percent deemed "slightly significant" and close to the 50 percent deemed "very significant" by the jury of teachers for evaluating error reduction.
5. Hypothesis No. 5 was refuted. Achievement in fluency increase for the holistic group was significantly greater than for the fragmented group, as judged by the established criteria for significance.

6. Hypothesis No. 6 was refuted. Achievement in error reduction for the holistic group was significantly greater than for the fragmented group.

7. Hypothesis No. 7 was refuted. A statistically significant inverse relationship existed between fluency scores and error scores for the fragmented group, both before and after treatment.

8. Hypothesis No. 8 was supported. There was no significant relationship between fluency scores and error scores for the holistic group, either on the pre-test or on the post-test.

Of all the findings in the study, the most surprising to the researcher was the decrease in fluency by the fragmented group. The jury of instructors had not established criteria for interpreting decreases in fluency. Indeed, it is difficult to see how a student could have fluency at one point and later lose it. The differences could not be attributed only to greater conciseness. Instead, in the judgment of the evaluator, the compositions tended to be underdeveloped, even though students were all allowed a full 50-minute period in which to write them.

It might be surmised that the topic of the post-test writing sample did not stimulate the fragmented group as well as the pre-test topic had, but if that were the case, the same effect would probably have been observed in the holistic group. Writing on the same topic, the holistic group made significant gains.

Explanations of greater likelihood are that the fragmented group (1) had not had as much practice as the holistic group in putting their thoughts on paper, (2) had not had as much emphasis placed upon developing fluency by their teachers, (3) had developed some tensions, possi-

bly over grammatical correctness, that blocked the flow of language, or (4) were indifferent to the task, as they might have been if they did not believe it would affect their grades. These possible explanations are, of course, merely speculative.

As mentioned in Chapter 1, one of the limitations of this study was the inability to generalize from the findings to a larger population, because the groups tested were not randomized samples. However, it may be concluded that similar results would probably be obtained for other groups of students with similar academic profiles, if taught at the same institution by the same instructors.

The conclusion is inescapable that, for the two groups studied, the holistic group made greater gains in fluency and greater reductions in errors (in almost every category) than did the fragmented method group. This conclusion holds true for both males and females as well as for students above and below the age of 25.

This study lends support to the many other studies reported in the literature which argue against formal grammar or sentence analysis as a means of improving seriously deficient writing skills. It may thus be added to the studies of Hoyt (1906), Ash (1935), Harris (1962), Cook (1959), and Searles and Carlson (1960), all of which concluded that the teaching of formal grammar and usage, when isolated from the student's own writing, does little or nothing to improve his writing.

This study tends to support the assertions of Shaughnessy (54), D'Eloia (16), Lunsford (35), Higgins (28), Moffett (39), and others that writing practice is more beneficial than analysis for improving student writing. The public demand for improvement of basic skills may be interpreted as a clamor for grammar, but there is no evidence

that the public would not be satisfied if the schools improved writing by other means--such as regular practice on realistic writing tasks.

The practices of the instructors of the holistic group were entirely consonant with the guidelines established by the National Council of Teachers of English (19). They provided a context for the learning of writing skills, gave help to students during the writing process rather than after, and used sentence-combining in preference to parsing or labeling to get structural concepts across. Student tutors were particularly helpful in the holistic method courses, giving assistance and feedback to supplement that of the teachers during the writing process. (Student tutors were also available to the fragmented method classes, but they were used in a different way.)

The holistic method classroom practices also followed the suggestions of D'Eloia (16), Shaughnessy (54), Lunsford (35), Gliserman (25), Fraser and Hodson (21) and others for the inductive teaching of grammar, beginning with problems arising out of the students' work, and keeping the time spent on grammar to a minimum, writing practice to a maximum, and terminology as simple as possible.

This study supports the assertions in the literature regarding the importance of teaching proofreading skills. That students need to be taught how to proofread, not just told to do it, was the contention of Chantland (10), Bronson (7), D'Eloia (16), Shaughnessy (55), and others. The emphasis upon proofreading in the holistic method classes probably contributed greatly to the significant reduction in errors by that group.

In fact, since spelling was not incorporated systematically into the lessons of either the holistic or the fragmented group, what-

ever gains were made in spelling improvement can probably be attributed to improved proofreading skills. The fragmented group made no improvement in spelling (indeed, their post-test compositions contained more spelling errors per 100 words than their pre-test compositions did). But the holistic method group decreased misspelling and miswriting from an average of 2.63 errors to 2.10 errors per 100 words, equivalent to a reduction of one spelling error in each 200-word composition. Even though that represents a 20 per cent improvement over the pre-test spelling score, teachers are not likely to be satisfied with that amount of progress. Like grammar, spelling must be related to the students' own writing if it is to be learned effectively. The National Council of Teachers of English (19) and many other voices in the literature have counseled that spelling skills cannot be learned effectively out of context.

This study lends some encouragements to the efforts to find methods for teaching to both halves of the brain. Holistic methods hold promise for students who do not analyze well (29, 22, 57, . . .). Three students in the English A sections could be classified as learning disabled students. Their writing showed the incoherence typical of disabled learners. One of them, Student Number 23H, reduced his errors from 80 to 44 in essays just over 200 words long. His errors per 100 words dropped from 30.9 to 20.7. He still is not a good writer, but he certainly has improved. Another, who was excluded from the research group because of a missing entrance examination score, doubled his fluency from 48 to 97 words while making five fewer errors on his post-test composition. The third, Student Number 5H, increased fluency from 120 to 203 words and reduced his errors from 20.8

to 10.8 per 100 words.

Abler students also improved, indicating that the holistic methods worked well for a wide range of students. Student Number 4H, for example, who scored a very high 68 points on the Task II English placement test, increased her fluency from 132 to 276 words and reduced her errors from 15.1 to 1.1 per 100 words.

This study bolsters the arguments of theorists like Britton and Emig (24), who believe that expressive writing is as important for college students as transactional (i.e. expository) writing is. Free writing done by students in the holistic method class allowed for the expression of personal thought, feelings, and memories. It should be noted, however, that not all students enjoyed free writing. Many asked for suggested topics.

Recommendations and Strategies For Diffusion, Implementation, and Change

Despite the fact that one cannot generalize from a study such as this, when the findings are viewed in the context of many other studies and the recommendations of reputable leaders in the field, it seems reasonable to recommend a wider use of holistic methods in remedial composition courses. Instructors who believe in the teaching of grammar, spelling, and other skills isolated from the context of a whole and meaningful communication should conduct studies of their own to demonstrate the effectiveness of their methods. It is not enough to assume that the learning of parts will automatically transfer to the production of wholes; the preponderance of evidence suggests otherwise.

Briefly summarized, then, the recommendations of this study

are:

1. That the study be replicated at other institutions which can employ computers to obtain randomized samples.
2. That other instructors, particularly at the research site of Sacramento City College, but also across the nation, try holistic methods and compare them to other methods for effectiveness.
3. That more writing practice on real or realistic tasks be incorporated into composition courses at all levels of education, similar to the controlled compositions used in this study.
4. That tutors or aides be provided in composition courses to multiply the amount of immediate feedback given during the writing process, since feedback on the students' own work was considered an important factor in the gains made by students in the English A pilot course.
5. That grammar be sparingly taught, and then kept in the context of the student's own work and explained in the simplest terminology possible.
6. That proofreading skills be consciously taught and regularly used in writing classes, particularly remedial ones.
7. That spelling be incorporated into holistic writing courses in the form of personal or class spelling lists, but not in impersonal lists nor in isolated drills.
8. That more experimentation be done in the use of holistic methods for learning disabled students.

Many of the above recommendations have already been implemented at Sacramento City College, in part because of several instructors' interest in and involvement in this study. The English Department there has voted to eliminate the mini-courses and substitute multiple sections of English A in the fall of 1980 to meet the needs of remedial writing students. Other recommendations for diffusion, implementation, and change are that:

9. The writer implement as many of the recommendations as possible in her own institution, Bakersfield College.

10. This Major Applied Research Project be submitted to E.R.I.C. for further diffusion to interested parties.

11. Controlled composition materials developed by the writer and field-tested as part of this study be expanded into a textbook of holistic exercises. Holt, Rinehart, and Winston Publishing Company has contracted for the book. In the meantime, instructors at Sacramento City College are continuing to use the controlled composition materials in a syllabus form, at least for the semester following that in which the research was done. They will consider adopting the textbook after it is published.

12. Other instructors and researchers build upon this modest beginning and carry forward the ideas which this study has to some degree advanced.

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APPENDIX A

THE PRE-TEST WRITING TOPIC AND DIRECTIONS

IN-CLASS WRITING ASSIGNMENT

DIRECTIONS: Read the following two opinions about television and write a paper giving your own opinion. Do you agree with Writer One, Writer Two, or both of them to some extent? To support your own opinion, tell something about your own experiences with TV or those of your family and friends. Do you think TV has helped them or slowed them down in their education?

WRITER ONE

Commercial television makes children better educated. They learn their letters and numbers from "Sesame Street" and "The Electric Company" before they go to kindergarten. They see shows about other people and places in the world, animals in their natural environment, adventures in outer space and under the sea. They know more than their parents did at the same age.

WRITER TWO

Commercial television has a bad effect on children's education. Watching TV takes time away from their studies. Late night viewing leaves them tired and unable to think well in school the next day. Because watching TV is easier than reading, many children do not read for pleasure, and they do not get enough reading practice. Nor do they get enough practice interacting with others--in play, in conversation, or in problem solving. They become viewers rather than doers, not willing to work hard to develop their own skills, preferring to watch others perform for them. Therefore many of them do not develop the patience they need to become good students.

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APPENDIX B

THE EVALUATION INSTRUMENT

Student Name _____ Date _____

Instructor _____ Class and Time _____

TOPIC _____

FLUENCY: Total No. of Words _____

CONTENT AND ORGANIZATION

Very Good	Good	Needs Impr.
-----------	------	-------------

Paper deals with assigned topic without digressing _____

Attitude or thesis is clearly stated _____

Flow of thought is logical _____

Paragraphing is logical _____

Paper is developed by reasons and/or experiences _____

Introduction and conclusion are adequate _____

MECHANICS AND STYLE: Errors made in the following categories:

- | | |
|--|-------|
| 1. Confusing or unclear sentence structure | _____ |
| 2. Fragments (incomplete sentences) | _____ |
| 3. Fused or spliced sentences | _____ |
| 4. Noun plurals improperly formed | _____ |
| 5. Verbs do not agree with their subjects | _____ |
| 6. Verbs use wrong form or tense | _____ |
| 7. Pronouns, faulty reference or wrong case | _____ |
| 8. Pronouns, shift in person | _____ |
| 9. Punctuation at the ends of sentences | _____ |
| 10. Other punctuation errors | _____ |
| 11. Capitalization errors | _____ |
| 12. Wrong word or usage | _____ |
| 13. Omission of words | _____ |
| 14. Omission of letters | _____ |
| 15. Misspelling or miswriting (not counting repeat errors) | _____ |
| 16. Apostrophe misused or missing | _____ |
| 17. Sentences wordy, not concise | _____ |
| 18. Other errors | _____ |

Total errors _____ Errors per 100 words of writing _____

APPENDIX C

THE POST-TEST WRITING TOPIC AND DIRECTIONS

STIMULUS READING: Read the statements below by candidates Jones and Smith, who want to be elected to public office. Think about how the ideas of each person would affect your own life if those ideas were put into practice.

CANDIDATE JONES

The price of oil and gas is bound to keep increasing, sending more American dollars to foreign countries and hurting our economy at home. My solution to this problem is to step up our own search for new oil deposits in this country, giving tax breaks to oil companies to help them pay for the expense of explorations. We should also develop other new energy sources such as nuclear power for heating homes. Then our oil supplies could be used for trucks and cars. Gas should not be rationed because issuing ration coupons and controlling them will increase the cost of government. As the cost of gas goes up, people will use less anyway, without any controls by the government.

CANDIDATE SMITH

We can't go on forever wasting the world's oil supplies and spending so much on foreign oil that it causes inflation at home. My solution is to conserve what we have. The government should help cities develop efficient, inexpensive bus service so people don't need so many cars. We should ship goods on railroads that use steam and coal power, rather than on trucks that use gasoline. Instead of using oil to heat homes, we should use solar power because that is cleaner and safer than nuclear power. Tax breaks should be given to people who insulate their homes and use smaller cars. And if absolutely necessary, we should ration gasoline so that rich people can't use any more gasoline than poor people can.

WRITING ASSIGNMENT: Write a paper giving several reasons why you would be more likely to vote for one of the above candidates than the other. Tell what your own life would be like if gasoline keeps getting more expensive or gets rationed, if your home has to be heated differently, etc., and what you think should be done about the problems. You may partly agree or disagree with both candidates, so feel free to give your own ideas.

APPENDIX D

CONTENTS OF CONTROLLED COMPOSITION LESSONS

- Lesson One -- Proofreading
Controlled Composition: "Seeing Exactly What Is There"
- Lesson Two -- Using A and An Correctly
Controlled Composition: "What Is a Teacher?"
- Lesson Three -- Writing About Men and Women
Controlled Composition: "The Healthy Personality"
- Lesson Four -- Writing About More Than One Person
Controlled Composition: "The Competitor"
- Lesson Five -- Writing About One Person
Controlled Composition: "Indecisive People"
- Lesson Six -- Using You Consistently
Controlled Composition: "The Secret of Hypnotic Power"
- Lesson Seven -- Using One/He/Him/Himself
Controlled Composition: "Imagine Yourself Successful"
- Lesson Eight -- Changing from Present to Past
Controlled Composition: "Reading to Remember"
- Lesson Nine -- Changing From Present to Future
Controlled Composition: "A Success Formula For College"
- Lesson Ten -- Combining to Make Compound Sentences
Controlled Composition: "How the Two Halves of the Brain Work"
- Lesson Eleven -- Subordinating With Adverbial Clauses
Controlled Composition: "Can Foods Affect Our Moods?"
- Lesson Twelve -- Subordinating With Adjective Clauses
Controlled Composition: "What Makes a Successful Employee?"
- Lesson Thirteen -- Using Appositives and Interrupters
Controlled Composition: "The Birth of Kunta Kinte"
- Lesson Fourteen -- Getting Rid of the Deadwood
Controlled Composition: "The Jabberbox"
- Lesson Fifteen -- Using Words in a Series
Controlled Composition: "How Teenagers Bug Their Parents"
- Lesson Sixteen -- Using Slang
Controlled Composition: "What Causes Anxiety?"

- Lesson Seventeen -- Changing Slang to Standard English
Controlled Composition: "Ups and Downs with a Chick"
- Lesson Eighteen -- Using Not, Never, Neither, and Nor
Controlled Composition: "The Health Nut"
- Lesson Nineteen -- Using Words with Negative Connotations
Controlled Composition: "The Best/Worst Date I Ever Had"
- Lesson Twenty -- Writing About What People Say
Controlled Composition: "An Interview With a Loser"
- Lesson Twenty-one -- Changing Reported Speech to Direct Speech
Controlled Composition: "An Interview With a Winner"
- Lesson Twenty-two -- Using Reported Speech
Controlled Composition: "How The Manager Hires an Employee"
- Lesson Twenty-three -- Verb Variety, Using -Ing Words
Controlled Composition: "A Letter From Hawaii"
- Lesson Twenty-four -- Verb Variety, Using Have and Has
Controlled Composition: "The Best Kind of Marriage"
- Lesson Twenty-five -- Verb Variety, Using Had
Controlled Composition: "Improving Concentration"
- Lesson Twenty-six -- Writing About Two Past Events
Controlled Composition: "The Three Hippie Bears"
- Lesson Twenty-seven -- Verb Variety, Using Active Voice
Controlled Composition: "The Narcissist"
- Lesson Twenty-eight -- Verb Variety, Using Passive Voice
Controlled Composition: "Why Mopeds Are Popular"
- Lesson Twenty-nine -- Writing a Business Letter
Controlled Composition: "Letter to Make a Reservation"
- Lesson Thirty -- Writing a Letter of Application
Controlled Composition: "Letter with Resume Enclosed"

MARP SIGNATURE PAGE

I certify that I have read and am willing to sponsor this Major Applied Research Project submitted by HELEN GORDON. In my opinion it conforms to acceptable standards and is fully adequate in scope and quality, as a Major Applied Research Project for the degree of Doctor of Education at Nova University.

June 8, 1979
(date)

Raymond J. Young
Raymond J. Young, MARP Advisor

I certify that I have read this Major Applied Research Project and in my opinion it conforms to acceptable standards for a Major Applied Research Project for the degree of Doctor of Education at Nova University.

June 18, 1979
(date)

Lincoln H. Hall
Lincoln H. Hall, Local Professional

This Major Applied Research Project was submitted to the Central Staff of the Nova University Ed. D. Program for Community College Faculty and is acceptable as partial fulfillment of the requirements for the degree of Doctor of Education.

June 27, 1979
(date)

R E Moreton
Ross E. Moreton
Central Staff Committee Member

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